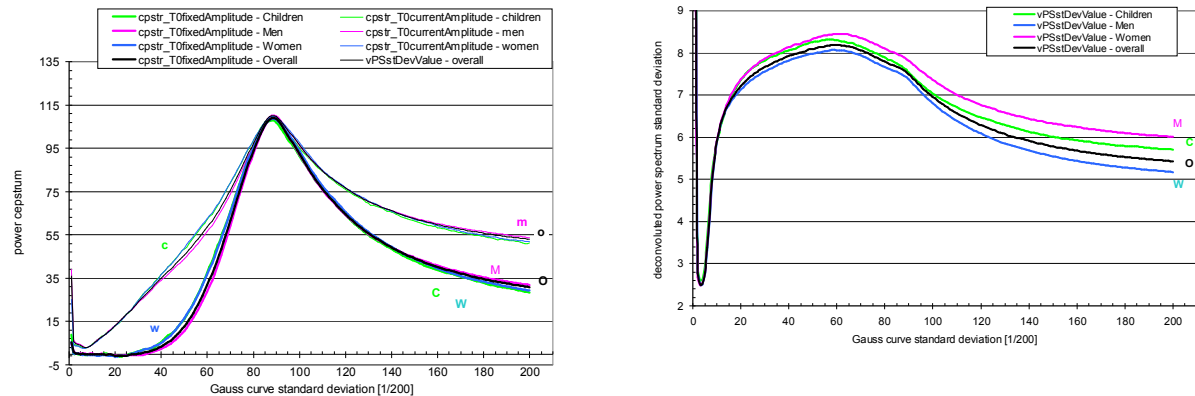
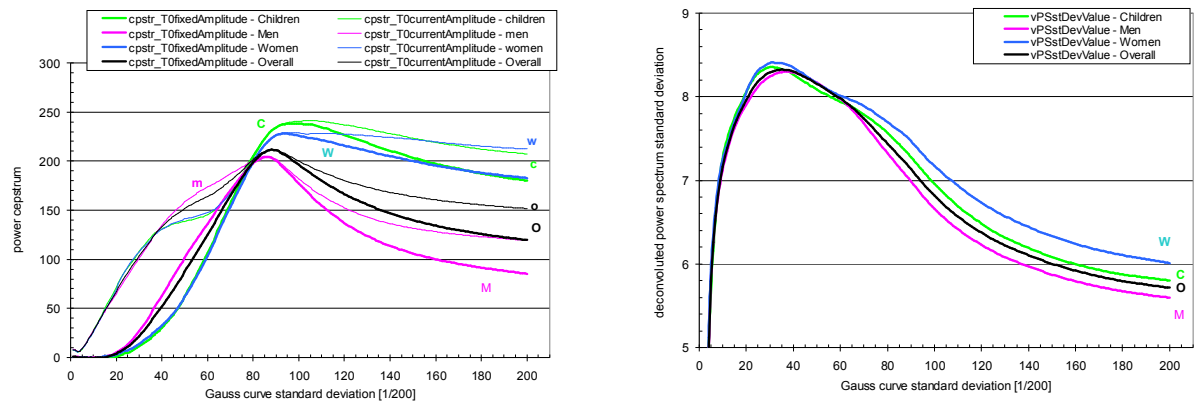


Supplement 1. Gauss window search results

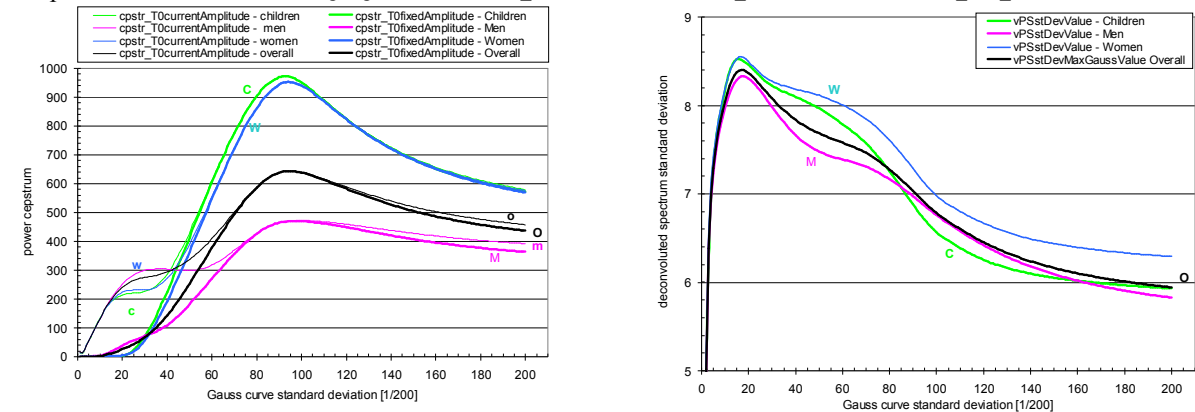
64 points, Gauss windows E:\apl\Spectrum\Windows_Search\Windows_Search_64\GaussSearchResults_64_4STAT.xlsb



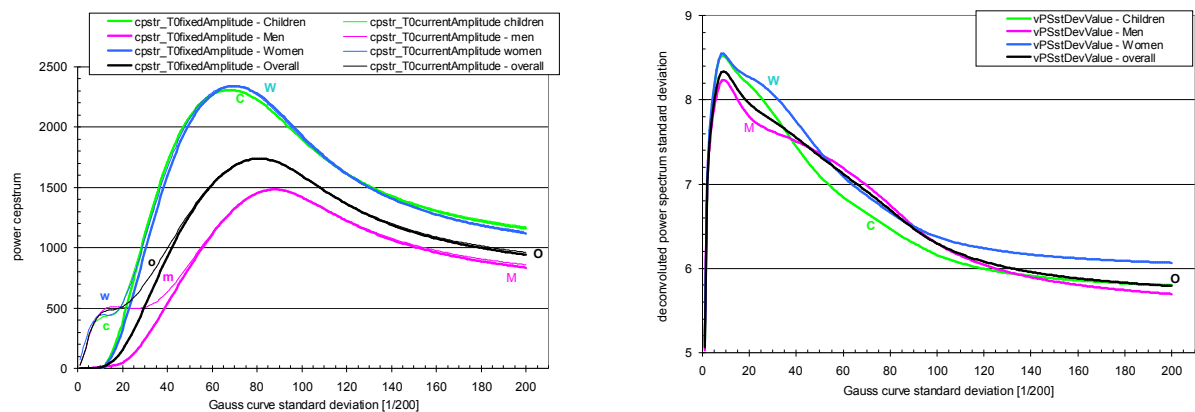
128 points Gauss windows E:\apl\Spectrum\Windows_Search\Windows_Search_128\GaussSearchResults_128_4stat.xlsb



256 points Gauss windows E:\apl\Spectrum\Windows_Search\WindowsSearch_256\GaussSearchResults_256_4stat.xlsb



512 points Gauss windows E:\apl\Spectrum\Windows_Search\Windows_Search_512\GaussSearchResults_512_4STAT.xlsb



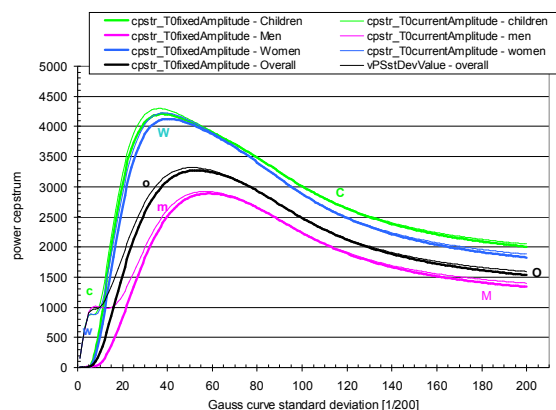


Fig. 1.1. Cepstrum at T_0 as function of the standard deviation parameter of a Gauss curve; C, c – children voices, M, m – male voices, W, w – female voices; capital marks are for T_0 readings obtained with Hamming windows and lowercase letters mark for T_0 readings obtained with current Gauss windows

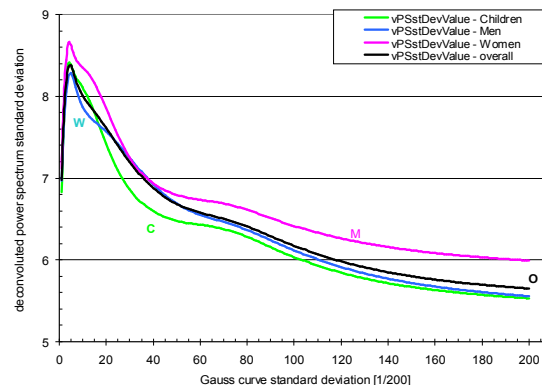


Fig. 1.2. Standard deviation of blind deconvoluted spectrum as function of the standard deviation parameter of a Gauss curve; C – children voices, M – male voices, W – female voices

Supplement 2. Korelacje T0

Badano skorelowanie wyników pomiarów *T0* oraz dynamiki uzyskanych z użyciem poszczególnych okien z wynikami uzyskanymi z użyciem pozostałych okien. Pełne macierze korelacji zamieszczamy w tabelach suplementu 3. Do każdej macierzy dołączono tam kolumnę średnich współczynników korelacji pomiarów wymienionych parametrów z użyciem danego okna z wynikami pomiarów otrzymanych z użyciem pozostałych okien. W poniższych tabelach zamieszczamy zestawienie tylko tych średnich oraz ich wykresy.

Table 2.1. Parameter *T0currentIndex*. Mean correlations coefficients values (means over remaining windows)

E:\apl\Spectrum\Windows Search\Windows Search 64 128 256 512 1024\joined 64 128 256 512 1024_4stat.xlsb

Windows kind	Windows width [points]				
	64	128	256	512	1024
G_D	0,208	0,298	0,215	0,0003	-0,152
F_T	0,151	0,284	0,221	0,0911	0,635
Rec	0,155	0,326	0,303	0,5222	0,519
B_H	0,400	0,491	0,426	0,6151	0,744
B_N	0,405	0,499	0,436	0,6250	0,744
G_T	0,361	0,499	0,477	0,6389	0,740
K_B	0,388	0,511	0,488	0,6501	0,743
Hm	0,363	0,501	0,496	0,6333	0,708
Hn	0,343	0,512	0,513	0,6467	0,729

Table. 2.2. Parameter *cpstr_T0fixedAmplitude*. Mean correlations coefficients values

Windows kind	Windows width [points]				
	64	128	256	512	1024
G_D	0,333	0,500	0,259	0,409	0,462
F_T	0,192	0,463	0,421	0,764	0,851
Rect	0,155	0,218	0,359	0,643	0,732
B_H	0,488	0,607	0,728	0,849	0,886
B_N	0,489	0,611	0,730	0,851	0,886
G_T	0,279	0,397	0,623	0,834	0,885
K_B	0,483	0,632	0,736	0,855	0,885
Hm	0,293	0,456	0,673	0,809	0,870
Hn	0,405	0,605	0,700	0,832	0,879

Table 2.3. Parameter *vPSstDevValue_B_H*. Mean correlations coefficients values

Windows kind	Windows width [points]				
	64	128	256	512	1024
G_D	0,804	0,890	0,882	0,8899	0,878
F_T	0,816	0,899	0,910	0,9438	0,950
Rect	0,272	0,668	0,627	0,7701	0,817
B_H	0,846	0,918	0,924	0,9517	0,957
B_N	0,846	0,918	0,924	0,9518	0,957
G_T	0,787	0,877	0,886	0,9495	0,957
K_B	0,844	0,918	0,924	0,9514	0,957
Hm	0,784	0,888	0,913	0,9413	0,950
Hn	0,832	0,911	0,921	0,9483	0,953

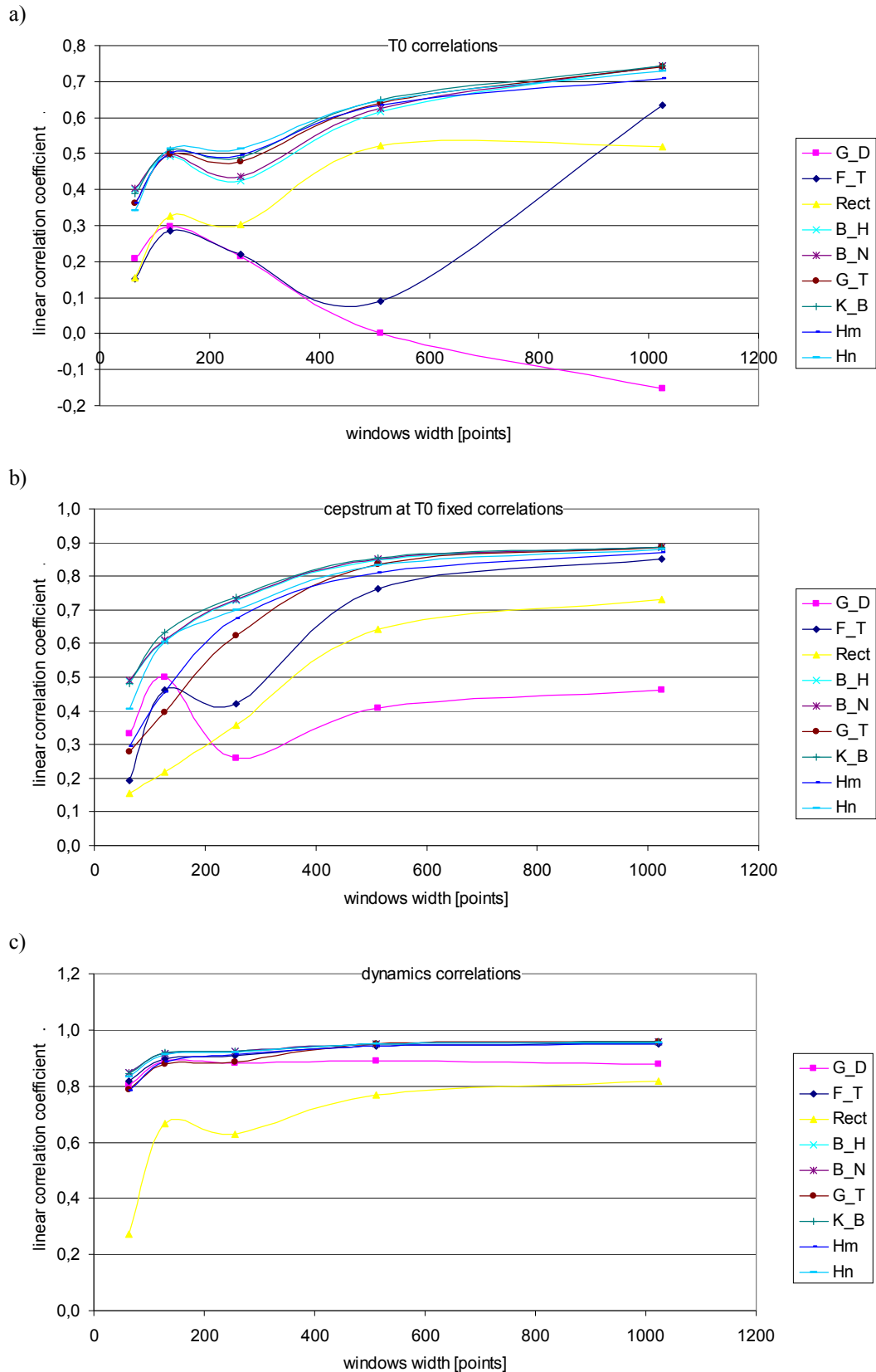


Fig. 2.1. Mean correlation coefficients (mean over remaining windows)

E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb

ad Fig. 2.1.a. Wyniki pomiarów $T0$ są jednakowo skorelowane za wyjątkiem pomiarów z użyciem okien F_T, G_D i Rec – te wykazują dużą zmienność. Korelacja wyników pomiarów $T0$ rośnie wraz ze wzrostem szerokości okna za wyjątkiem uzyskanych za pomocą okna G_D.

ad Fig. 2.1.b. Pomiary cepstrum w punkcie $T0$ są podobnie skorelowane jak wyniki pomiarów $T0$. Gorsze skorelowanie pomiarów cepstrum z użyciem okien F_T, G_D i Rect objawia się również gorszym skorelowaniem pomiarów $T0$. Potwierdza to przypuszczenie, że lepsze odtworzenie harmonicznego pobudzenia będzie skutkować lepszymi pomiarami $T0$.

ad Fig. 2.1.c. Najslabiej skorelowane z pomiarami dynamiki pozostałych okien są pomiary dynamiki uzyskane za pomocą okna prostokątnego. To okno jest więc najgorsze w zastosowaniach do rozpoznawania dźwięków. Użycie pozostałych okien nie będzie mieć, jak można wnosić z tego rysunku, istotnego wpływu na zdolność dyskryminacji dźwięków

Supplement 3. ANOVA and correlation analysis results

3.1. Table index

Nbr	feature	variable	contents
64.1	<i>T0</i>	<i>T0</i> currentIndex	MANOVA
64.2	<i>T0</i>	<i>T0</i> currentIndex	correlations
64.3	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, probabilities
64.4	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, homogenous groups
64.5	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	MANOVA
64.6	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	correlations
64.7	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, probabilities
64.8	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, homogenous groups
64.9	cepstrum	cpstr <i>T0</i> currentAmplitude	MANOVA
64.10	cepstrum	cpstr <i>T0</i> currentAmplitude	correlations
64.11	cepstrum	cpstr <i>T0</i> currentAmplitude	post-hoc, LSD, probabilities
64.12	cepstrum	cpstr <i>T0</i> currentAmplitude	post-hoc, LSD, homogenous groups
64.13	dynamics	vPSstDevValue	MANOVA
64.14	dynamics	vPSstDevValue	correlations
64.15	dynamics	vPSstDevValue	post-hoc, LSD, probabilities
64.16	dynamics	vPSstDevValue	post-hoc, LSD, homogenous groups
128.1	<i>T0</i>	<i>T0</i> currentIndex	MANOVA
128.2	<i>T0</i>	<i>T0</i> currentIndex	correlations
128.3	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, probabilities
128.4	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, homogenous groups
128.5	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	MANOVA
128.6	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	correlations
128.7	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, probabilities
128.8	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, homogenous groups
128.9	cepstrum	cpstr <i>T0</i> currentAmplitude	MANOVA
128.10	cepstrum	cpstr <i>T0</i> currentAmplitude	correlations
128.11	cepstrum	cpstr <i>T0</i> currentAmplitude	post-hoc, LSD, probabilities
128.12	cepstrum	cpstr <i>T0</i> currentAmplitude	post-hoc, LSD, homogenous groups
128.13	dynamics	vPSstDevValue	MANOVA
128.14	dynamics	vPSstDevValue	correlations
128.15	dynamics	vPSstDevValue	post-hoc, LSD, probabilities
128.16	dynamics	vPSstDevValue	post-hoc, LSD, homogenous groups
256.1	<i>T0</i>	<i>T0</i> currentIndex	MANOVA
256.2	<i>T0</i>	<i>T0</i> currentIndex	correlations
256.3	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, probabilities
256.4	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, homogenous groups
256.5	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	MANOVA
256.6	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	correlations
256.7	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, probabilities
256.8	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, homogenous groups
256.9	cepstrum	cpstr <i>T0</i> currentAmplitude	MANOVA
256.10	cepstrum	cpstr <i>T0</i> currentAmplitude	correlations
256.11	cepstrum	cpstr <i>T0</i> currentAmplitude	post-hoc, LSD, probabilities
256.12	cepstrum	cpstr <i>T0</i> currentAmplitude	post-hoc, LSD, homogenous groups
256.13	dynamics	vPSstDevValue	MANOVA
256.14	dynamics	vPSstDevValue	correlations
256.15	dynamics	vPSstDevValue	post-hoc, LSD, probabilities
256.16	dynamics	vPSstDevValue	post-hoc, LSD, homogenous groups

Nbr	feature	variable	contents
512.1	<i>T0</i>	<i>T0</i> currentIndex	MANOVA
512.2	<i>T0</i>	<i>T0</i> currentIndex	correlations
512.3	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, probabilities
512.4	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, homogenous groups
512.5	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	MANOVA
512.6	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	correlations
512.7	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, probabilities
512.8	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, homogenous groups
512.9	cepstrum	cpstr_ <i>T0</i> currentAmplitude	MANOVA
512.10	cepstrum	cpstr_ <i>T0</i> currentAmplitude	correlations
512.11	cepstrum	cpstr_ <i>T0</i> currentAmplitude	post-hoc, LSD, probabilities
512.12	cepstrum	cpstr_ <i>T0</i> currentAmplitude	post-hoc, LSD, homogenous groups
512.13	dynamics	vPSstDevValue	MANOVA
512.14	dynamics	vPSstDevValue	correlations
512.15	dynamics	vPSstDevValue	post-hoc, LSD, probabilities
512.16	dynamics	vPSstDevValue	post-hoc, LSD, homogenous groups
1024.1	<i>T0</i>	<i>T0</i> currentIndex	MANOVA
1024.2	<i>T0</i>	<i>T0</i> currentIndex	correlations
1024.3	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, probabilities
1024.4	<i>T0</i>	<i>T0</i> currentIndex	post-hoc, LSD, homogenous groups
1024.5	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	MANOVA
1024.6	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	correlations
1024.7	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, probabilities
1024.8	cepstrum	cpstr_ <i>T0</i> FixedAmplitude	post-hoc, LSD, homogenous groups
1024.9	cepstrum	cpstr_ <i>T0</i> currentAmplitude	MANOVA
1024.10	cepstrum	cpstr_ <i>T0</i> currentAmplitude	correlations
1024.11	cepstrum	cpstr_ <i>T0</i> currentAmplitude	post-hoc, LSD, probabilities
1024.12	cepstrum	cpstr_ <i>T0</i> currentAmplitude	post-hoc, LSD, homogenous groups
1024.13	dynamics	vPSstDevValue	MANOVA
1024.14	dynamics	vPSstDevValue	correlations
1024.15	dynamics	vPSstDevValue	post-hoc, LSD, probabilities
1024.16	dynamics	vPSstDevValue	post-hoc, LSD, homogenous groups

3.2. Tables

Windows symbols (#) meanings: B_H – Blackman-Harris', B_N – Blackman-Nutal's, K_B – Keiser_Bessel's, Hn – Hann's, G_T – Gauss' for *T0* mesures, Hm – Hamming's, G_D – Gauss' for dynamics mesures, F_T – Flat-top, Rect – rectangular window.

Results for 64 points window width E:\apl\Spectrum\Windows_Search\Windows Search_64\joined_64_4stat.xlsb

Variable: $T0_{currentIndex\#}$
 Feature: fundamental period ($T0$)

Table 64.1. Multivariate tests for repeated measure. The analysis results of $T0$ (variables $T0_{currentIndex\#}$) for different windows. The # means windows name

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.547	558	8	5392	0.000
	Pillai's	0.453	558	8	5392	0.000
	Hotelling	0.828	558	8	5392	0.000
	Roy's	0.828	558	8	5392	0.000

Table 64.2. Linear correlation coefficients between $T0$ readings obtained when applying different weighting windows

Window	B_H	B_N	K_B	Hn	G_T	Hm	G_D	F_T	Rect	mean
B_H	1.000	0.931	0.626	0.321	0.232	0.229	0.158	0.084	0.021	0.400
B_N	0.931	1.000	0.661	0.335	0.240	0.240	0.143	0.070	0.024	0.405
K_B	0.626	0.661	1.000	0.472	0.289	0.288	0.100	0.028	0.023	0.388
Hn	0.321	0.335	0.472	1.000	0.433	0.449	0.053	-0.012	0.035	0.343
G_T	0.232	0.240	0.289	0.433	1.000	0.924	0.031	-0.044	0.147	0.361
Hm	0.229	0.240	0.288	0.449	0.924	1.000	0.033	-0.041	0.142	0.363
G_D	0.158	0.143	0.100	0.053	0.031	0.033	1.000	0.311	0.041	0.208
F_T	0.084	0.070	0.028	-0.012	-0.044	-0.041	0.311	1.000	-0.035	0.151
Rect	0.021	0.024	0.023	0.035	0.147	0.142	0.041	-0.035	1.000	0.155

Table 64.3. LSD test for repeated measures; variable $T0_{currentIndex\#}$

Probabilities for Post Hoc Tests.

Error: Within MS = 19.523, df = 43192

Window		G_D	F_T	B_H	B_N	K_B	Hn	Hm	G_T	Rect
	mean	18.7	19.4	19.9	20.0	20.2	21.2	23.3	23.3	24.1
G_D	18.7		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F_T	19.4	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
B_H	19.9	0.000	0.000		0.451	0.000	0.000	0.000	0.000	0.000
B_N	20.0	0.000	0.000	0.451		0.004	0.000	0.000	0.000	0.000
K_B	20.2	0.000	0.000	0.000	0.004		0.000	0.000	0.000	0.000
Hn	21.2	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hm	23.3	0.000	0.000	0.000	0.000	0.000	0.000		0.671	0.000
G_T	23.3	0.000	0.000	0.000	0.000	0.000	0.000	0.671		0.000
Rect	24.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 64.4. LSD test for repeated measures; variable $T0_{currentIndex\#}$

Homogenous Groups. alpha = 0.05.

Error: Within MS = 19.523, df = 43192

Window	mean	1	2	3	4	5	6	7
G_D	18.7	****						
F_T	19.4		****					
B_H	19.9			****				
B_N	20.0			****				
K_B	20.2				****			
Hn	21.2					****		
Hm	23.3						****	
G_T	23.3						****	
Rect	24.1							****

64 points windows, continued

Variable: cpstr_T0fixedAmplitude#

Feature: cepstrum at a T0 found with the Hamming window

Table 64.5. Multivariate tests for repeated measures. The analysis results of cepstrum amplitude for different windows read at a T0 point found with the Hamming window (T0fixed). One-way MANOVA. variables: cpstr_T0fixedAmplitude#, category: Window

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.063	9948	8	5392	0.000
	Pillai's	0.937	9948	8	5392	0.000
	Hotelling	14.760	9948	8	5392	0.000
	Roy's	14.760	9948	8	5392	0.000

Table 64.6. Correlation coefficients between cepstrum values (cpstr_T0fixedAmplitude#) for different windows; the values were read at the T0fixed point

Window	B_H	B_N	K_B	Hn	G_D	Hm	G_T	F_T	Rect	mean
B_H	1.000	0.996	0.908	0.615	0.390	0.162	0.146	0.117	0.061	0.488
B_N	0.996	1.000	0.921	0.625	0.379	0.168	0.151	0.100	0.064	0.489
K_B	0.908	0.921	1.000	0.759	0.313	0.200	0.166	0.010	0.066	0.483
Hn	0.615	0.625	0.759	1.000	0.197	0.262	0.191	-0.065	0.060	0.405
G_D	0.390	0.379	0.313	0.197	1.000	0.044	0.025	0.630	0.015	0.333
Hm	0.162	0.168	0.200	0.262	0.044	1.000	0.767	-0.016	0.052	0.293
G_T	0.146	0.151	0.166	0.191	0.025	0.767	1.000	-0.028	0.095	0.279
F_T	0.117	0.100	0.010	-0.065	0.630	-0.016	-0.028	1.000	-0.017	0.192
Rect	0.061	0.064	0.066	0.060	0.015	0.052	0.095	-0.017	1.000	0.155

Table 64.7. LSD test for repeated measures; variable cpstr_T0fixedAmplitude#

Probabilities for Post Hoc Tests.

Error: Within MS = 1469.2, df = 43192

Window		F_T	G_D	Rect	B_H	B_N	K_B	Hn	G_T	Hm
	mean	-8.2	2.4	3.5	22.0	23.7	33.9	55.1	108.5	115.2
F_T	-8.2		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_D	2.4	0.000		0.145	0.000	0.000	0.000	0.000	0.000	0.000
Rect	3.5	0.000	0.145		0.000	0.000	0.000	0.000	0.000	0.000
B_H	22.0	0.000	0.000	0.000		0.021	0.000	0.000	0.000	0.000
B_N	23.7	0.000	0.000	0.000	0.021		0.000	0.000	0.000	0.000
K_B	33.9	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hn	55.1	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
G_T	108.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Hm	115.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 64.8. LSD test for repeated measures; variable cpstr_T0fixedAmplitude#

Homogenous Groups. alpha = 0.05

Error: Within MS = 1469.2, df = 43192

Window	mean	1	2	3	4	5	6	7	8
F_T	-8.2	****							
G_D	2.4		****						
Rect	3.5		****						
B_H	22.0			****					
B_N	23.7				****				
K_B	33.9					****			
Hn	55.1						****		
G_T	108.5							****	
Hm	115.2								****

64 points windows, continued

Variable: cpstr_T0currentAmplitude

Feature: cepstrum at a T0 found with a current window

Table 64.9. Multivariate tests for repeated measures. The analysis results of cepstrum amplitude for different windows read at a T0). One-way MANOVA. variables: cpstr_T0currentAmplitude#, category: Window

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0,116	5133	8	5392	0.000
	Pillai's	0,884	5133	8	5392	0.000
	Hotelling	7,616	5133	8	5392	0.000
	Roy's	7,616	5133	8	5392	0.000

Table 64.10. Correlation coefficients between cepstrum values (cpstr_T0currentAmplitude#) for different windows; the values were read at the T0 point

Window	B_H	B_N	K_B	Hn	G_D	F_T	Hm	G_T	Rect	mean
B_H	1.000	0.986	0.806	0.457	0.290	0.230	0.139	0.110	0.038	0.451
B_N	0.986	1.000	0.828	0.469	0.276	0.220	0.146	0.116	0.039	0.453
K_B	0.806	0.828	1.000	0.622	0.199	0.165	0.193	0.159	0.031	0.445
Hn	0.457	0.469	0.622	1.000	0.119	0.074	0.304	0.239	0.054	0.371
G_D	0.290	0.276	0.199	0.119	1.000	0.551	-0.001	-0.021	0.002	0.269
F_T	0.230	0.220	0.165	0.074	0.551	1.000	-0.049	-0.075	-0.008	0.234
Hm	0.139	0.146	0.193	0.304	-0.001	-0.049	1.000	0.776	0.017	0.281
G_T	0.110	0.116	0.159	0.239	-0.021	-0.075	0.776	1.000	0.030	0.259
Rect	0.038	0.039	0.031	0.054	0.002	-0.008	0.017	0.030	1.000	0.134

Table 64.11. LSD test for repeated measures; variable cpstr_T0currentAmplitude# Probabilities for Post Hoc Tests.

Error: Within MS = 1142.9, df = 43192

Window		G_D	Rect	F_T	B_H	B_N	K_B	Hn	G_T	Hm
	mean	32.8	41.0	41.1	54.9	55.7	63.0	80.0	110	115
G_D	32.8		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rect	41.0	0.000		0.914	0.000	0.000	0.000	0.000	0.000	0.000
F_T	41.1	0.000	0.914		0.000	0.000	0.000	0.000	0.000	0.000
B_H	54.9	0.000	0.000	0.000		0.202	0.000	0.000	0.000	0.000
B_N	55.7	0.000	0.000	0.000	0.202		0.000	0.000	0.000	0.000
K_B	63.0	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hn	80.0	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
G_T	110	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Hm	115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 64.12. LSD test for repeated measures; variable cpstr_T0currentAmplitude# Homogenous Groups. alpha = 0.05

Error: Within MS = 1142.9, df = 43192

Window	mean	1	2	3	4	5	6	7
G_D	32,757	****						
Rect	41,043		****					
F_T	41,113		****					
B_H	54,904			****				
B_N	55,733			****				
K_B	63,026				****			
Hn	80,034					****		
G_T	109,654						****	
Hm	115,209							****

64 points windows, continued

Variable: vPSstDevValue

Feature: dynamics – standard deviation of deconvoluted spectrum.

Table 64.13. Multivariate tests for repeated measures. The analysis results for the variable vPSstDevValue# (dynamics)

	Test	Value	F	Effect	Error	p
Window	Wilks	0.666	338	8	5392	0.000
	Pillai's	0.334	338	8	5392	0.000
	Hotelling	0.501	338	8	5392	0.000
	Roy's	0.501	338	8	5392	0.000

Table 64.14. Correlation coefficients between dynamics values (vPSstDevValue#) for different windows

Window	B_H	B_N	K_B	Hn	F_T	G_D	G_T	Hm	Rect	mean
B_H	1.000	0.999	0.986	0.949	0.935	0.919	0.828	0.825	0.174	0.846
B_N	0.999	1.000	0.988	0.951	0.932	0.916	0.829	0.827	0.173	0.846
K_B	0.986	0.988	1.000	0.968	0.909	0.890	0.837	0.838	0.175	0.844
Hn	0.949	0.951	0.968	1.000	0.873	0.852	0.853	0.856	0.184	0.832
F_T	0.935	0.932	0.909	0.873	1.000	0.979	0.780	0.771	0.170	0.816
G_D	0.919	0.916	0.890	0.852	0.979	1.000	0.764	0.754	0.163	0.804
G_T	0.828	0.829	0.837	0.853	0.780	0.764	1.000	0.983	0.208	0.787
Hm	0.825	0.827	0.838	0.856	0.771	0.754	0.983	1.000	0.202	0.784
Rect	0.174	0.173	0.175	0.184	0.170	0.163	0.208	0.202	1.000	0.272

Table 64.15. LSD test for repeated measures; variable vPSstDevValue#

Probabilities for Post Hoc Tests

Error: Within MS = 5.6195, df = 43192

Window		Rect	G_T	Hm	G_D	F_T	Hn	B_H	B_N	K_B
	mean	5.33	7.49	7.69	7.88	7.91	8.15	8.20	8.21	8.25
Rect	5.33		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_T	7.49	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hm	7.69	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
G_D	7.88	0.000	0.000	0.000		0.584	0.000	0.000	0.000	0.000
F_T	7.91	0.000	0.000	0.000	0.584		0.000	0.000	0.000	0.000
Hn	8.15	0.000	0.000	0.000	0.000	0.000		0.238	0.188	0.030
B_H	8.20	0.000	0.000	0.000	0.000	0.000	0.238		0.892	0.326
B_N	8.21	0.000	0.000	0.000	0.000	0.000	0.188	0.892		0.397
K_B	8.25	0.000	0.000	0.000	0.000	0.000	0.030	0.326	0.397	

Table 64.16. LSD test for repeated measures; variable vPSstDevValue#

Homogenous Groups. alpha = 0.05

Error: Within MS = 5.6195, df = 43192

Window	mean	1	2	3	4	5	6
Rect	5.33	****					
G_T	7.49		****				
Hm	7.69			****			
G_D	7.88				****		
F_T	7.91				****		
Hn	8.15					****	
B_H	8.20					****	****
B_N	8.21					****	****
K_B	8.25						****

Results for 128 points window width.

E:\apl\Spectrum\Windows_Search\Windows_Search_128\joined_128_4STAT.xlsb

Variable: $T0_{currentIndex}$
Feature: fundamental period ($T0$)

Table 128.1. Multivariate tests for repeated measure. The analysis results of $T0$ (variables $T0_{currentIndex\#}$) for different windows

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.427	904	8	5392	0.00
	Pillai's	0.573	904	8	5392	0.00
	Hotelling	1.34	904	8	5392	0.00
	Roy's	1.34	904	8	5392	0.00

Table 128.2. $T0_{currentIndex}$

Correlation coefficients between $T0$ readings for different windows

Window	B_H	B_N	K_B	Hn	Hm	G_T	G_D	F_T	Rect	mean
B_H	1.000	0.949	0.673	0.441	0.336	0.331	0.289	0.238	0.166	0.491
B_N	0.949	1.000	0.696	0.460	0.348	0.342	0.280	0.239	0.174	0.499
K_B	0.673	0.696	1.000	0.628	0.470	0.464	0.203	0.200	0.263	0.511
Hn	0.441	0.460	0.628	1.000	0.696	0.685	0.146	0.142	0.410	0.512
Hm	0.336	0.348	0.470	0.696	1.000	0.953	0.132	0.124	0.449	0.501
G_T	0.331	0.342	0.464	0.685	0.953	1.000	0.133	0.125	0.459	0.499
G_D	0.289	0.280	0.203	0.146	0.132	0.133	1.000	0.487	0.013	0.298
F_T	0.238	0.239	0.200	0.142	0.124	0.125	0.487	1.000	-0.001	0.284
Rect	0.166	0.174	0.263	0.410	0.449	0.459	0.013	-0.001	1.000	0.326

Table 128.3. LSD test for repeated measures; variable $T0_{currentIndex\#}$

Probabilities for Post Hoc Tests

Error: Within MS = 108.33, df = 43192

Window		G_D	F_T	B_H	B_N	K_B	Hn	Hm	G_T	Rect
	mean	20.2	21.4	23.6	23.9	26.2	31.0	35.7	35.9	38.2
G_D	20.2		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F_T	21.4	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
B_H	23.6	0.000	0.000		0.219	0.000	0.000	0.000	0.000	0.000
B_N	23.9	0.000	0.000	0.219		0.000	0.000	0.000	0.000	0.000
K_B	26.2	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
Hn	31.0	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hm	35.7	0.000	0.000	0.000	0.000	0.000	0.000		0.314	0.000
G_T	35.9	0.000	0.000	0.000	0.000	0.000	0.000	0.314		0.000
Rect	38.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 128.4. LSD test for repeated measures; variable $T0_{currentIndex\#}$

Homogenous Groups. alpha = 0.05

Error: Within MS = 108.33, df = 43192

Window	mean	1	2	3	4	5	6	7
G_D	20.2	****						
F_T	21.4		****					
B_H	23.6			****				
B_N	23.9			****				
K_B	26.2				****			
Hn	31.0					****		
Hm	35.7						****	
G_T	35.9							****

Rect 38.2 ****

128 points windows, continued

Variable: cpstr_T0fixedAmplitude

Feature: cepstrum at a T0 found with the Hamming window

Table 128.5. Multivariate tests for repeated measures. The analysis results results of cepstrum amplitude for different windows read at a T0 point found with the Hamming window (T0fixed). One-way MANOVA. variables: cpstr_T0fixedAmplitude#. category: Window

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.122	4853	8	5392	0.00
	Pillai's	0.878	4853	8	5392	0.00
	Hotelling	7.201	4853	8	5392	0.00
	Roy's	7.201	4853	8	5392	0.00

Table 128.6. Correlations coefficients coefficients between cepstrum values (cpstr_T0fixedAmplitude#) for different windows; the values were read at the T0fixed point

Window	B_H	B_N	K_B	G_D	F_T	Hn	Hm	G_T	Rect	mean
B_H	1.000	0.999	0.958	0.758	0.696	0.686	0.283	0.148	-0.061	0.607
B_N	0.999	1.000	0.964	0.749	0.686	0.699	0.296	0.161	-0.051	0.611
K_B	0.958	0.964	1.000	0.668	0.598	0.812	0.392	0.258	0.034	0.632
G_D	0.758	0.749	0.668	1.000	0.901	0.409	0.117	0.020	-0.120	0.500
F_T	0.696	0.686	0.598	0.901	1.000	0.336	0.074	-0.017	-0.104	0.463
Hn	0.686	0.699	0.812	0.409	0.336	1.000	0.632	0.552	0.322	0.605
Hm	0.283	0.296	0.392	0.117	0.074	0.632	1.000	0.909	0.402	0.456
G_T	0.148	0.161	0.258	0.020	-0.017	0.552	0.909	1.000	0.540	0.397
Rect	-0.061	-0.051	0.034	-0.120	-0.104	0.322	0.402	0.540	1.000	0.218

Table 128.7. LSD test for repeated measures; variable: cpstr_T0fixedAmplitude#

Probabilities for Post Hoc Tests

Error: Within MS = 3982.1, df = 43192

Window		F_T	G_D	Rect	B_H	B_N	K_B	Hn	G_T	Hm
	mean	28.3	42.3	63.0	110.5	113.5	132.6	164.4	207.6	213.3
F_T	28.3		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_D	42.3	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rect	63.0	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
B_H	110.5	0.000	0.000	0.000		0.013	0.000	0.000	0.000	0.000
B_N	113.5	0.000	0.000	0.000	0.013		0.000	0.000	0.000	0.000
K_B	132.6	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hn	164.4	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
G_T	207.6	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Hm	213.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 128.8. LSD test for repeated measures; variable: cpstr_T0fixedAmplitude#

Homogenous Groups. alpha = 0.05

Error: Within MS = 3982.1, df = 43192

Window	mean	1	2	3	4	5	6	7	8	9
F_T	28.3	****								
G_D	42.3		****							
Rect	63.0			****						
B_H	110.5				****					
B_N	113.5					****				
K_B	132.6						****			
Hn	164.4							****		
G_T	207.6								****	
Hm	213.3									****

128 points windows, continued

Variable: cpstr_T0currentAmplitude

Feature: cepstrum at a T0 found with a current window

Table 128.9. Multivariate tests for repeated measures. The analysis results results of cepstrum amplitude for different windows read at a T0 point. One-way MANOVA. variables:

cpstr_T0currentAmplitude#. category: Window

	Test	Value	F	Effect	Error	p
Window	Wilks	0,288	1667	8	5392	0.000
	Pillai's	0,712	1667	8	5392	0.000
	Hotelling	2,473	1667	8	5392	0.000
	Roy's	2,473	1667	8	5392	0.000

Table 128.10. Correlations coefficients coefficients between cepstrum values (cpstr_T0currentAmplitude#) for different windows; the values were read at the T0 point

Window	B_H	B_N	K_B	Hn	F_T	G_D	Hm	G_T	Rect	mean
B_H	1.000	0.998	0.929	0.588	0.581	0.570	0.239	0.113	-0.047	0.552
B_N	0.998	1.000	0.940	0.600	0.570	0.559	0.248	0.121	-0.048	0.554
K_B	0.929	0.940	1.000	0.721	0.495	0.481	0.347	0.202	-0.034	0.565
Hn	0.588	0.600	0.721	1.000	0.345	0.333	0.695	0.593	0.220	0.566
F_T	0.581	0.570	0.495	0.345	1.000	0.849	0.146	0.100	0.068	0.461
G_D	0.570	0.559	0.481	0.333	0.849	1.000	0.140	0.105	0.090	0.459
Hm	0.239	0.248	0.347	0.695	0.146	0.140	1.000	0.912	0.328	0.451
G_T	0.113	0.121	0.202	0.593	0.100	0.105	0.912	1.000	0.450	0.400
Rect	-0.047	-0.048	-0.034	0.220	0.068	0.090	0.328	0.450	1.000	0.225

Table 128.11. LSD test for repeated measures; variable: cpstr_T0currentAmplitude#

Probabilities for Post Hoc Tests

Error: Within MS = 2473.3, df = 43192

Window		Rect	G_D	F_T	B_H	B_N	K_B	Hn	G_T	Hm
	mean	118	125	127	161	162	168	186	209	213
Rect	118		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_D	125	0.000		0.031	0.000	0.000	0.000	0.000	0.000	0.000
F_T	127	0.000	0.031		0.000	0.000	0.000	0.000	0.000	0.000
B_H	161	0.000	0.000	0.000		0.353	0.000	0.000	0.000	0.000
B_N	162	0.000	0.000	0.000	0.353		0.000	0.000	0.000	0.000
K_B	168	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hn	186	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
G_T	209	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Hm	213	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 128.12. LSD test for repeated measures; variable: cpstr_T0currentAmplitude#

Homogenous Groups. alpha = 0.05

Error: Within MS = 2473.3, df = 43192

Window	mean	1	2	3	4	5	6	7	8
Rect	118	****							
G_D	125		****						
F_T	127			****					
B_H	161				****				
B_N	162				****				
K_B	168					****			
Hn	186						****		
G_T	209							****	
Hm	213								****

128 points windows, continued

Variable: vPSstDevValue

Feature: dynamics – standard deviation of deconvoluted spectrum.

Table 128.13. Multivariate tests for repeated measures. The analysis results for the variable vPSstDevValue# (dynamics)

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.316	1461	8	5392	0.00
	Pillai's	0.684	1461	8	5392	0.00
	Hotelling	2.167	1461	8	5392	0.00
	Roy's	2.167	1461	8	5392	0.00

Table 128.14. Correlations coefficients between dynamics values (vPSstDevValue#) for different windows

Window	B_H	B_N	K_B	Hn	F_T	G_D	Hm	G_T	Rect	mean
B_H	1.000	1.000	0.994	0.970	0.964	0.954	0.894	0.876	0.607	0.918
B_N	1.000	1.000	0.995	0.972	0.963	0.952	0.896	0.877	0.607	0.918
K_B	0.994	0.995	1.000	0.984	0.950	0.937	0.908	0.888	0.609	0.918
Hn	0.970	0.972	0.984	1.000	0.922	0.907	0.924	0.905	0.619	0.911
F_T	0.964	0.963	0.950	0.922	1.000	0.990	0.855	0.840	0.605	0.899
G_D	0.954	0.952	0.937	0.907	0.990	1.000	0.842	0.828	0.604	0.890
Hm	0.894	0.896	0.908	0.924	0.855	0.842	1.000	0.993	0.676	0.888
G_T	0.876	0.877	0.888	0.905	0.840	0.828	0.993	1.000	0.686	0.877
Rect	0.607	0.607	0.609	0.619	0.605	0.604	0.676	0.686	1.000	0.668

Table 128.15. LSD test for repeated measures; variable vPSstDevValue#

Probabilities for Post Hoc Tests

Error: Within MS = 0.91556, df = 43192

Window		Rect	G_T	Hm	Hn	K_B	B_N	B_H	F_T	G_D
	mean	5.06	7.03	7.21	7.72	7.93	8.02	8.03	8.23	8.32
Rect	5.06		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_T	7.03	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hm	7.21	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
Hn	7.72	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
K_B	7.93	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
B_N	8.02	0.000	0.000	0.000	0.000	0.000		0.549	0.000	0.000
B_H	8.03	0.000	0.000	0.000	0.000	0.000	0.549		0.000	0.000
F_T	8.23	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
G_D	8.32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 128.16. LSD test for repeated measures; variable vPSstDevValue#

Homogenous Groups. alpha = 0.05

Error: Within MS = 0.91556, df = 43192

Window	mean	1	2	3	4	5	6	7	8
Rect	5.06	****							
G_T	7.03		****						
Hm	7.21			****					
Hn	7.72				****				
K_B	7.93					****			
B_N	8.02						****		
B_H	8.03							****	
F_T	8.23								****
G_D	8.32								

Results for 256 points window width E:\apl\Spectrum\Windows_Search\WindowsSearch_256\Joined_256_4stat.xlsb

Variable: *T0*currentIndex

Feature: fundamental period (*T0*)

Table 256.1. Multivariate tests for repeated measures. The analysis results of *T0* (variables *T0*currentIndex#) for different windows. The # means windows name symbol

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.167	3361	8	5392	0.000
	Pillai's	0.833	3361	8	5392	0.000
	Hotelling	4.986	3361	8	5392	0.000
	Roy's	4.986	3361	8	5392	0.000

Table 256.2. Correlations coefficients *T0* readings for different weighting windows

Window	B_H	B_N	K_B	Hn	Hm	F_T	G_T	G_D	Rect	mean
B_H	1.000	0.950	0.645	0.349	0.258	0.238	0.222	0.147	0.021	0.426
B_N	0.950	1.000	0.677	0.374	0.282	0.223	0.245	0.137	0.040	0.436
K_B	0.645	0.677	1.000	0.615	0.504	0.153	0.463	0.113	0.224	0.488
Hn	0.349	0.374	0.615	1.000	0.848	0.065	0.802	0.079	0.485	0.513
Hm	0.258	0.282	0.504	0.848	1.000	0.025	0.934	0.059	0.549	0.496
F_T	0.238	0.223	0.153	0.065	0.025	1.000	0.002	0.405	-0.127	0.221
G_T	0.222	0.245	0.463	0.802	0.934	0.002	1.000	0.045	0.577	0.477
G_D	0.147	0.137	0.113	0.079	0.059	0.405	0.045	1.000	-0.046	0.215
Rect	0.021	0.040	0.224	0.485	0.549	-0.127	0.577	-0.046	1.000	0.303

Table 256.3. LSD test for repeated measures; variable *T0*currentIndex#

Probabilities for Post Hoc Tests

Error: Within MS = 537.68, df = 43192

Window		G_D	F_T	B_H	B_N	K_B	Hn	Hm	G_T	Rect
	mean	22.87	28.42	51.07	52.24	61.73	74.39	78.32	79.79	85.31
G_D	22.87		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F_T	28.42	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
B_H	51.07	0.000	0.000		0.009	0.000	0.000	0.000	0.000	0.000
B_N	52.24	0.000	0.000	0.009		0.000	0.000	0.000	0.000	0.000
K_B	61.73	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
Hn	74.39	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hm	78.32	0.000	0.000	0.000	0.000	0.000	0.000		0.001	0.000
G_T	79.79	0.000	0.000	0.000	0.000	0.000	0.000	0.001		0.000
Rect	85.31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 256.4. LSD test for repeated measures; variable *T0*currentIndex#

Homogenous Groups. alpha = 0.05

Error: Within MS = 537.68, df = 43192

Window	mean	1	2	3	4	5	6	7	8	9
G_D	22.87	****								
F_T	28.42		****							
B_H	51.07			****						
B_N	52.24				****					
K_B	61.73					****				
Hn	74.39						****			
Hm	78.32							****		
G_T	79.79								****	
Rect	85.31									****

256 points windows, continued

Variable: cpstr_T0fixedAmplitude

Feature: cepstrum at a T0 found with the Hamming window

Table 256.5. Multivariate tests for repeated measures. The analysis results of cepstrum amplitude for different windows read at a T0 point found with the Hamming window (T0fixed). One-way MANOVA, variables: cpstr_T0fixedAmplitude#. category: Window

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.264	1880	8	5392	0.00
	Pillai's	0.736	1880	8	5392	0.00
	Hotelling	2.790	1880	8	5392	0.00
	Roy's	2.790	1880	8	5392	0.00

Table 256.6. Correlations coefficients between cepstrum values (cpstr_T0fixedAmplitude#) for different windows; the values were read at the T0fixed point

Window	B_H	B_N	K_B	Hn	Hm	G_T	F_T	G_D	Rect	mean
B_H	1.000	1.000	0.979	0.860	0.798	0.695	0.596	0.346	0.276	0.728
B_N	1.000	1.000	0.983	0.871	0.810	0.708	0.581	0.330	0.288	0.730
K_B	0.979	0.983	1.000	0.936	0.884	0.794	0.468	0.217	0.367	0.736
Hn	0.860	0.871	0.936	1.000	0.969	0.919	0.230	0.018	0.498	0.700
Hm	0.798	0.810	0.884	0.969	1.000	0.967	0.162	-0.054	0.518	0.673
G_T	0.695	0.708	0.794	0.919	0.967	1.000	0.052	-0.135	0.603	0.623
F_T	0.596	0.581	0.468	0.230	0.162	0.052	1.000	0.819	-0.115	0.421
G_D	0.346	0.330	0.217	0.018	-0.054	-0.135	0.819	1.000	-0.206	0.259
Rect	0.276	0.288	0.367	0.498	0.518	0.603	-0.115	-0.206	1.000	0.359

Table 256.7. LSD test for repeated measures; variable cpstr_T0fixedAmplitude#

Probabilities for Post Hoc Tests

Error: Within MS = 30751, df = 43192

Window		G_D	F_T	Rect	B_H	B_N	K_B	Hn	Hm	G_T
	mean	52.6	53.2	298	339	349	425	582	635	637
G_D	52.6		0.856	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F_T	53.2	0.856		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rect	298	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
B_H	339	0.000	0.000	0.000		0.003	0.000	0.000	0.000	0.000
B_N	349	0.000	0.000	0.000	0.003		0.000	0.000	0.000	0.000
K_B	425	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hn	582	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
Hm	635	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.638
G_T	637	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.638	

Table 256.8. LSD test for repeated measures; variable cpstr_T0fixedAmplitude#

Homogenous Groups. alpha = 0.05. Error: Within MS = 30751, df = 43192

Window	mean	1	2	3	4	5	6	7
G_D	52.6	****						
F_T	53.2	****						
Rect	298		****					
B_H	339			****				
B_N	349				****			
K_B	425					****		
Hn	582						****	
Hm	635							****
G_T	637							****

256 points windows, continued

Variable: cpstr_T0currentAmplitude

Feature: cepstrum at a T0 found with a current window

Table 256.9. Multivariate tests for repeated measures. The analysis results of cepstrum amplitude for different windows read at a T0 (T0current) point. One-way MANOVA, variables:

cpstr_T0currentAmplitude#. category: Window

	Test	Value	F	Effect	Error	p
Window	Wilks	0.377	1113	8	5392	0.00
	Pillai's	0.623	1113	8	5392	0.00
	Hotelling	1.652	1113	8	5392	0.00
	Roy's	1.652	1113	8	5392	0.00

Table 256.10. Correlations coefficients between cepstrum values (cpstr_T0currentAmplitude#) for different windows; the values were read at the T0 point

Window	B_H	B_N	K_B	Hn	Hm	G_T	Rect	F_T	G_D	mean
B_H	1.000	0.999	0.969	0.829	0.778	0.674	0.280	0.252	-0.011	0.641
B_N	0.999	1.000	0.975	0.844	0.794	0.690	0.288	0.232	-0.024	0.644
K_B	0.969	0.975	1.000	0.926	0.883	0.790	0.342	0.096	-0.117	0.652
Hn	0.829	0.844	0.926	1.000	0.977	0.924	0.446	-0.105	-0.226	0.624
Hm	0.778	0.794	0.883	0.977	1.000	0.967	0.474	-0.166	-0.261	0.605
G_T	0.674	0.690	0.790	0.924	0.967	1.000	0.550	-0.215	-0.257	0.569
Rect	0.280	0.288	0.342	0.446	0.474	0.550	1.000	-0.082	-0.067	0.359
F_T	0.252	0.232	0.096	-0.105	-0.166	-0.215	-0.082	1.000	0.708	0.191
G_D	-0.011	-0.024	-0.117	-0.226	-0.261	-0.257	-0.067	0.708	1.000	0.083

Table 256.11. LSD test for repeated measures; variable cpstr_T0currentAmplitude#

Probabilities for Post Hoc Tests

Error: Within MS = 30921, df = 43192

Window		G_D	F_T	Rect	B_H	B_N	K_B	Hn	Hm	G_T
	mean	270	273	334	387	393	449	591	635	639
G_D	270		0.361	0.000	0.000	0.000	0.000	0.00	0.000	0.000
F_T	273	0.361		0.000	0.000	0.000	0.000	0.00	0.000	0.000
Rect	334	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
B_H	387	0.000	0.000	0.000		0.063	0.000	0.00	0.000	0.000
B_N	393	0.000	0.000	0.000	0.063		0.000	0.00	0.000	0.000
K_B	449	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Hn	591	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
Hm	635	0.000	0.000	0.000	0.000	0.000	0.000	0.00		0.306
G_T	639	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.306	

Table 256.12. LSD test for repeated measures; variable cpstr_T0currentAmplitude#

Homogenous Groups. alpha = 0.05

Error: Within MS = 30921, df = 43192

Window	mean	1	2	3	4	5	6
G_D	270	****					
F_T	273	****					
Rect	334		****				
B_H	387			****			
B_N	393			****			
K_B	449				****		
Hn	591					****	
Hm	635						****
G_T	639						****

256 points windows, continued

Variable: vPSstDevValue

Feature: dynamics – standard deviation of deconvoluted spectrum.

Table 256.13. Multivariate tests for repeated measures. The analysis results for the variable vPSstDevValue# (dynamics)the " vPSstDevValue"

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.408	977	8	5392	0.00
	Pillai's	0.592	977	8	5392	0.00
	Hotelling	1.449	977	8	5392	0.00
	Roy's	1.449	977	8	5392	0.00

Table 256.14. Correlations coefficients between dynamics values (vPSstDevValue#) for different windows

Window	B_H	B_N	K_B	Hn	F_T	Hm	G_D	G_T	Rect	mean
B_H	1.000	1.000	0.998	0.985	0.976	0.949	0.933	0.904	0.570	0.924
B_N	1.000	1.000	0.998	0.986	0.975	0.950	0.932	0.904	0.570	0.924
K_B	0.998	0.998	1.000	0.992	0.968	0.956	0.924	0.911	0.572	0.924
Hn	0.985	0.986	0.992	1.000	0.949	0.966	0.908	0.922	0.580	0.921
F_T	0.976	0.975	0.968	0.949	1.000	0.916	0.972	0.875	0.559	0.910
Hm	0.949	0.950	0.956	0.966	0.916	1.000	0.880	0.984	0.613	0.913
G_D	0.933	0.932	0.924	0.908	0.972	0.880	1.000	0.845	0.546	0.882
G_T	0.904	0.904	0.911	0.922	0.875	0.984	0.845	1.000	0.633	0.886
Rect	0.570	0.570	0.572	0.580	0.559	0.613	0.546	0.633	1.000	0.627

Table 256.15. LSD test for repeated measures; variable vPSstDevValue#

Probabilities for Post Hoc Tests

Error: Within MS = 0.9961, df = 43192

Window		Rect	G_T	Hm	Hn	K_B	B_N	B_H	F_T	G_D
	mean	5.41	6.76	7.09	7.40	7.54	7.60	7.60	7.86	8.17
Rect	5.41		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_T	6.76	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hm	7.09	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
Hn	7.40	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
K_B	7.54	0.000	0.000	0.000	0.000		0.004	0.001	0.000	0.000
B_N	7.60	0.000	0.000	0.000	0.000	0.004		0.707	0.000	0.000
B_H	7.60	0.000	0.000	0.000	0.000	0.001	0.707		0.000	0.000
F_T	7.86	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
G_D	8.17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 256.16. LSD test for repeated measures; variable vPSstDevValue#

Homogenous Groups. alpha = 0.05

Error: Within MS = 0.9961, df = 43192

Window	mean	1	2	3	4	5	6	7	8
Rect	5.41	****							
G_T	6.76		****						
Hm	7.09			****					
Hn	7.40				****				
K_B	7.54					****			
B_N	7.60						****		
B_H	7.60							****	
F_T	7.86								****
G_D	8.17								

Results for 512 points window width

E:\apl\Spectrum\Windows_Search\Windows_Search_512\joined_512_4STAT.xlsb

Variable: $T0_{currentIndex}$

Feature: fundamental period ($T0$)

Table 512.1. Multivariate tests for repeated measures. The analysis results results of $T0$ (variables $T0_{currentIndex\#}$) for different windows

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.174	3207	8	5392	0.00
	Pillai's	0.826	3207	8	5392	0.00
	Hotelling	4.758	3207	8	5392	0.00
	Roy's	4.758	3207	8	5392	0.00

Table 512.2. Correlations coefficients coefficients between $T0$ for different weighting windows

Window	B_H	B_N	K_B	Hn	G_T	Hm	Rec	F_T	G_D	mean
B_H	1.000	0.972	0.859	0.759	0.733	0.722	0.559	0.053	-0.120	0.615
B_N	0.972	1.000	0.884	0.783	0.756	0.745	0.576	0.036	-0.128	0.625
K_B	0.859	0.884	1.000	0.895	0.870	0.859	0.659	-0.024	-0.151	0.650
Hn	0.759	0.783	0.895	1.000	0.974	0.963	0.709	-0.086	-0.176	0.647
G_T	0.733	0.756	0.870	0.974	1.000	0.990	0.706	-0.096	-0.182	0.639
Hm	0.722	0.745	0.859	0.963	0.990	1.000	0.705	-0.101	-0.183	0.633
Rec	0.559	0.576	0.659	0.709	0.706	0.705	1.000	-0.059	-0.154	0.522
F_T	0.053	0.036	-0.024	-0.086	-0.096	-0.101	-0.059	1.000	0.096	0.091
G_D	-0.120	-0.128	-0.151	-0.176	-0.182	-0.183	-0.154	0.096	1.000	0.0003

Table 512.3. LSD test for repeated measures; variable variable $T0_{currentIndex\#}$

Probabilities for Post Hoc Tests

Error: Within MS = 543.77, df = 43192

Window		G_D	F_T	B_H	B_N	K_B	Hn	G_T	Hm	Rec
	mean	25.4	58.5	91.4	92.0	94.3	96.3	96.7	96.9	97.2
G_D	25.4		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F_T	58.5	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
B_H	91.4	0.000	0.000		0.212	0.000	0.000	0.000	0.000	0.000
B_N	92.0	0.000	0.000	0.212		0.000	0.000	0.000	0.000	0.000
K_B	94.3	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
Hn	96.3	0.000	0.000	0.000	0.000	0.000		0.331	0.160	0.030
G_T	96.7	0.000	0.000	0.000	0.000	0.000	0.331		0.666	0.230
Hm	96.9	0.000	0.000	0.000	0.000	0.000	0.160	0.666		0.442
Rec	97.2	0.000	0.000	0.000	0.000	0.000	0.030	0.230	0.442	

Table 512.4. LSD test for repeated measures; variable $T0_{currentIndex\#}$

Homogenous Groups. alpha = 0.05

Error: Within MS = 543.77, df = 43192

Window	mean	1	2	3	4	5	6
G_D	25.4	****					
F_T	58.5		****				
B_H	91.4			****			
B_N	92.0			****			
K_B	94.3				****		
Hn	96.3					****	
G_T	96.7					****	****
Hm	96.9					****	****
Rec	97.2						****

512 points windows, continued

Variable: cpstr_T0fixedAmplitude

Feature: cepstrum at a T0 found with the Hamming window

Table 512.5. Multivariate tests for repeated measures. The analysis results results of cepstrum amplitude for different windows read at a T0 point found with the Hamming window (T0fixed). One-way MANOVA. variables: cpstr_T0fixedAmplitude#. cathegory: Window

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.117	5070	8	5392	0.00
	Pillai's	0.883	5070	8	5392	0.00
	Hotelling	7.523	5070	8	5392	0.00
	Roy's	7.523	5070	8	5392	0.00

Table 512.6. Correlations coefficients coefficients between cepstrum values (cpstr_T0fixedAmplitude#) for different windows; the values were read at the T0fixed point

Window	B_H	B_N	K_B	F_T	G_T	Hn	Hm	Rect	G_D	mean
B_H	1.000	1.000	0.990	0.920	0.918	0.915	0.868	0.618	0.415	0.849
B_N	1.000	1.000	0.992	0.915	0.923	0.920	0.874	0.623	0.410	0.851
K_B	0.990	0.992	1.000	0.865	0.958	0.956	0.918	0.656	0.360	0.855
F_T	0.920	0.915	0.865	1.000	0.729	0.727	0.663	0.477	0.578	0.764
G_T	0.918	0.923	0.958	0.729	1.000	0.991	0.990	0.741	0.259	0.834
Hn	0.915	0.920	0.956	0.727	0.991	1.000	0.982	0.728	0.267	0.832
Hm	0.868	0.874	0.918	0.663	0.990	0.982	1.000	0.768	0.218	0.809
Rect	0.618	0.623	0.656	0.477	0.741	0.728	0.768	1.000	0.177	0.643
G_D	0.415	0.410	0.360	0.578	0.259	0.267	0.218	0.177	1.000	0.409

Table 512.7. LSD test for repeated measures; variable variable cpstr_T0fixedAmplitude#

Probabilities for Post Hoc Tests

Error: Within MS = 1289E2, df = 43192

Window		G_D	Rect	F_T	B_H	B_N	K_B	G_T	Hm	Hn
	mean	65.8	653	784	1480	1497	1624	1740	1745	1756
G_D	65.8		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rect	653	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
F_T	784	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
B_H	1480	0.000	0.000	0.000		0.015	0.000	0.000	0.000	0.000
B_N	1497	0.000	0.000	0.000	0.015		0.000	0.000	0.000	0.000
K_B	1624	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
G_T	1740	0.000	0.000	0.000	0.000	0.000	0.000		0.478	0.020
Hm	1745	0.000	0.000	0.000	0.000	0.000	0.000	0.478		0.105
Hn	1756	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.105	

Table 512.8. LSD test for repeated measures; variable variable cpstr_T0fixedAmplitude#

Homogenous Groups. alpha = 0.05

Error: Within MS = 1289E2, df = 43192

Window	mean	1	2	3	4	5	6	7	8
G_D	65.8	****							
Rect	653		****						
F_T	784			****					
B_H	1480				****				
B_N	1497					****			
K_B	1624						****		
G_T	1740							****	
Hm	1745								****
Hn	1756								

512 points windows, continued

Variable: cpstr_T0currentAmplitude

Feature: cepstrum at a T0 found with a current window

Table 512.9. Multivariate tests for repeated measures. The analysis results results of cepstrum amplitude for different windows read at a T0 point (T0current). One-way MANOVA. variables: cpstr_T0currentAmplitude#. category: Window

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0,155	3669	8	5392	0,00
	Pillai's	0,845	3669	8	5392	0,00
	Hotelling	5,443	3669	8	5392	0,00
	Roy's	5,443	3669	8	5392	0,00

Table 512.10. Correlations coefficients coefficients between cepstrum values (cpstr_T0currentAmplitude#) for different windows; the values were read at the point

Window	B_H	B_N	K_B	G_T	Hn	F_T	Hm	Rect	G_D	mean
B_H	1,000	1,000	0,990	0,915	0,912	0,889	0,865	0,607	-0,129	0,783
B_N	1,000	1,000	0,992	0,920	0,917	0,883	0,871	0,611	-0,131	0,785
K_B	0,990	0,992	1,000	0,957	0,955	0,829	0,917	0,641	-0,147	0,793
G_T	0,915	0,920	0,957	1,000	0,992	0,695	0,990	0,721	-0,151	0,782
Hn	0,912	0,917	0,955	0,992	1,000	0,697	0,983	0,707	-0,154	0,779
F_T	0,889	0,883	0,829	0,695	0,697	1,000	0,632	0,469	-0,025	0,674
Hm	0,865	0,871	0,917	0,990	0,983	0,632	1,000	0,747	-0,151	0,761
Rect	0,607	0,611	0,641	0,721	0,707	0,469	0,747	1,000	-0,099	0,601
G_D	-0,129	-0,131	-0,147	-0,151	-0,154	-0,025	-0,151	-0,099	1,000	0,001

Table 512.11. LSD test for repeated measures; variable variable cpstr_T0currentAmplitude# Probabilities for Post Hoc Tests Error: Within MS = 1406E, df = 43192

Window		G_D	Rect	F_T	B_H	B_N	K_B	G_T	Hm	Hn
	mean	487	692	930	1491	1507	1630	1740	1745	1759
G_D	487		0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Rect	692	0,00		0,00	0,00	0,00	0,00	0,00	0,00	0,00
F_T	930	0,00	0,00		0,00	0,00	0,00	0,00	0,00	0,00
B_H	1491	0,00	0,00	0,00		0,03	0,00	0,00	0,00	0,00
B_N	1507	0,00	0,00	0,00	0,03		0,00	0,00	0,00	0,00
K_B	1630	0,00	0,00	0,00	0,00	0,00		0,00	0,00	0,00
G_T	1740	0,00	0,00	0,00	0,00	0,00	0,00		0,54	0,01
Hm	1745	0,00	0,00	0,00	0,00	0,00	0,00	0,54		0,05
Hn	1759	0,00	0,00	0,00	0,00	0,00	0,00	0,01	0,05	

Table 512.12. LSD test for repeated measures; variable variable cpstr_T0currentAmplitude# Homogenous Groups. alpha = 0.05 Error: Within MS = 1406E, df = 43192

Window	mean	1	2	3	4	5	6	7	8
G_D	487	****							
Rect	692		****						
F_T	930			****					
B_H	1491				****				
B_N	1507					****			
K_B	1630						****		
G_T	1740							****	
Hm	1745								****
Hn	1759								

512 points windows, continued

Variable: vPSstDevValue

Feature: dynamics – standard deviation of deconvoluted spectrum.

Table 512.13. Multivariate tests for repeated measures. The analysis results for the variable vPSstDevValue# (dynamics)

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.312	1484	8	5392	0.000
	Pillai's	0.688	1484	8	5392	0.000
	Hotelling	2.202	1484	8	5392	0.000
	Roy's	2.202	1484	8	5392	0.000

Table 512.14. Correlations coefficients between dynamics values (vPSstDevValue#) for different windows

Window	B_H	B_N	K_B	Hn	F_T	G_T	Hm	G_D	Rect	mean
B_H	1.000	1.000	0.998	0.987	0.987	0.982	0.966	0.909	0.736	0.9517
B_N	1.000	1.000	0.998	0.988	0.986	0.983	0.967	0.908	0.736	0.9518
K_B	0.998	0.998	1.000	0.993	0.979	0.988	0.972	0.899	0.735	0.9514
Hn	0.987	0.988	0.993	1.000	0.964	0.991	0.980	0.888	0.744	0.9483
F_T	0.987	0.986	0.979	0.964	1.000	0.960	0.944	0.938	0.736	0.9438
G_T	0.982	0.983	0.988	0.991	0.960	1.000	0.995	0.886	0.761	0.9495
Hm	0.966	0.967	0.972	0.980	0.944	0.995	1.000	0.872	0.775	0.9413
G_D	0.909	0.908	0.899	0.888	0.938	0.886	0.872	1.000	0.708	0.8899
Rect	0.736	0.736	0.735	0.744	0.736	0.761	0.775	0.708	1.000	0.7701

Table 512.15. LSD test for repeated measures; variable vPSstDevValue#)

Probabilities for Post Hoc Tests

Error: Within MS = 0.57584, df = 43192.

Window		Rect	Hm	G_T	Hn	K_B	B_N	B_H	F_T	G_D
	mean	5.33	6.50	6.67	6.79	7.02	7.14	7.16	7.56	8.08
Rect	5.33		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hm	6.50	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_T	6.67	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
Hn	6.79	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
K_B	7.02	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
B_N	7.14	0.000	0.000	0.000	0.000	0.000		0.292	0.000	0.000
B_H	7.16	0.000	0.000	0.000	0.000	0.000	0.292		0.000	0.000
F_T	7.56	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
G_D	8.08	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 512.16. LSD test for repeated measures; variable vPSstDevValue#

Homogenous Groups. alpha = 0.05

Error: Within MS = 0.57584, df = 43192.

Window	mean	1	2	3	4	5	6	7	8
Rect	5.331	****							
Hm	6.50		****						
G_T	6.668			****					
Hn	6.788				****				
K_B	7.015					****			
B_N	7.145						****		
B_H	7.160							****	
F_T	7.557								****
G_D	8.085								

Results for 1024 points window width.

E:\apl\Spectrum\Windows_Search\Windows_Search_1024\joined_1024_4stat.xlsb

Variable: $T0_{currentIndex}$

Feature: fundamental period ($T0$)

Table 1024.1. Multivariate tests for repeated measures. The analysis results of $T0$ (variables $T0_{currentIndex\#}$) for different windows

factor	Test	Value	F	Effect	Error	p
Window	Wilks	0.266	1863	8	5392	0.000
	Pillai's	0.734	1863	8	5392	0.000
	Hotelling	2.764	1863	8	5392	0.000
	Roy's	2.764	1863	8	5392	0.000

Table 1024.2. Correlations coefficients between $T0$ readings for different weighting windows.

Window	B_H	B_N	F_T	GD	G_T	Hm	Hn	K_B	Rect	mean
B_H	1.000	0.998	0.783	-0.328	0.982	0.856	0.895	0.957	0.553	0.744
B_N	0.998	1.000	0.782	-0.328	0.980	0.858	0.897	0.959	0.554	0.744
F_T	0.783	0.782	1.000	-0.273	0.794	0.692	0.726	0.759	0.455	0.635
GD	-0.328	-0.328	-0.273	1.000	-0.323	-0.305	-0.311	-0.322	-0.182	-0.152
G_T	0.982	0.980	0.794	-0.323	1.000	0.845	0.881	0.942	0.556	0.740
Hm	0.856	0.858	0.692	-0.305	0.845	1.000	0.953	0.891	0.579	0.708
Hn	0.895	0.897	0.726	-0.311	0.881	0.953	1.000	0.934	0.589	0.729
K_B	0.957	0.959	0.759	-0.322	0.942	0.891	0.934	1.000	0.568	0.743
Rect	0.553	0.554	0.455	-0.182	0.556	0.579	0.589	0.568	1.000	0.519

Table 1024.3. LSD test for repeated measures; variable $T0_{currentIndex\#}$

Probabilities for Post Hoc Tests

Error: Within MS = 555.00, df = 43192.

Window		GD	F_T	G_T	B_H	B_N	K_B	Hn	Hm	Rect
LSD	mean	30.38	95.93	99.43	99.66	99.68	100.05	100.35	100.56	100.92
GD	30.38		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F_T	95.93	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
G_T	99.43	0.000	0.000		0.605	0.579	0.170	0.041	0.013	0.001
B_H	99.66	0.000	0.000	0.605		0.969	0.393	0.126	0.048	0.006
B_N	99.68	0.000	0.000	0.579	0.969		0.414	0.135	0.053	0.006
K_B	100.05	0.000	0.000	0.170	0.393	0.414		0.499	0.262	0.055
Hn	100.35	0.000	0.000	0.041	0.126	0.135	0.499		0.656	0.215
Hm	100.56	0.000	0.000	0.013	0.048	0.053	0.262	0.656		0.426
Rect	100.92	0.000	0.000	0.001	0.006	0.006	0.055	0.215	0.426	

Table 1024.4. LSD test for repeated measures; variable $T0_{currentIndex\#}$

Homogenous Groups. alpha = 0.05

Error: Within MS = 555.00, df = 43192.

Window	mean	1	2	3	4	5	6
GD	30.38	****					
F_T	95.93		****				
G_T	99.43			****			
B_H	99.66			****	****		
B_N	99.68			****	****	****	
K_B	100.05			****	****	****	****
Hn	100.35				****	****	****
Hm	100.56					****	****
Rect	100.92						****

1024 points windows, continued

Variable: cpstr_T0fixedAmplitude

Feature: cepstrum at a T0 found with the Hamming window

Table 1024.5. Multivariate tests for repeated measures. The analysis results of cepstrum amplitude for different windows read at a T0 point found with the Hamming window (T0fixed). One-way MANOVA.

variables: cpstr_T0fixedAmplitude#. category: Window

Window	Test	Value	F	Effect	Error	p
	Wilks	0.136	4289	8	5392	0.000
	Pillai's	0.864	4289	8	5392	0.000
	Hotelling	6.364	4289	8	5392	0.000
	Roy's	6.364	4289	8	5392	0.000

Table 1024.6. Correlation coefficients between cepstrum values (cpstr_T0fixedAmplitude#) for different windows; the values were read at the T0fixed point

Window	Hm	Hn	K_B	B_N	B_H	G_T	F_T	Rect	GD	mean
Hm	1.000	0.991	0.972	0.956	0.954	0.940	0.848	0.821	0.350	0.870
Hn	0.991	1.000	0.986	0.972	0.970	0.958	0.874	0.792	0.369	0.879
K_B	0.972	0.986	1.000	0.997	0.996	0.988	0.913	0.748	0.368	0.885
B_N	0.956	0.972	0.997	1.000	1.000	0.997	0.937	0.731	0.385	0.886
B_H	0.954	0.970	0.996	1.000	1.000	0.998	0.940	0.729	0.388	0.886
G_T	0.940	0.958	0.988	0.997	0.998	1.000	0.957	0.719	0.407	0.885
F_T	0.848	0.874	0.913	0.937	0.940	0.957	1.000	0.676	0.518	0.851
Rect	0.821	0.792	0.748	0.731	0.729	0.719	0.676	1.000	0.375	0.732
GD	0.350	0.369	0.368	0.385	0.388	0.407	0.518	0.375	1.000	0.462

Table 1024.7. LSD test for repeated measures; variable cpstr_T0fixedAmplitude#

Probabilities for Post Hoc Tests

Error: Within MS = 3114E2, df = 43192

Window		GD	Rect	Hm	Hn	F_T	K_B	B_N	B_H	G_T
	mean	253	1165	2784	2942	3027	3198	3258	3262	3269
GD	253		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rect	1165	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hm	2784	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
Hn	2942	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
F_T	3027	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
K_B	3198	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
B_N	3258	0.000	0.000	0.000	0.000	0.000	0.000		0.660	0.276
B_H	3262	0.000	0.000	0.000	0.000	0.000	0.000	0.660		0.517
G_T	3269	0.000	0.000	0.000	0.000	0.000	0.000	0.276	0.517	

Test 1024.8. LSD test for repeated measures; variable cpstr_T0fixedAmplitude#

Homogenous Groups. alpha = 0.05

Error: Within = 3114E2, df = 43192

Window	mean	1	2	3	4	5	6	7
GD	253	****						
Rect	1165		****					
Hm	2784			****				
Hn	2942				****			
F_T	3027					****		
K_B	3198						****	
B_N	3258							****
B_H	3262							****
G_T	3269							****

1024 points windows, continued

Variable: cpstr_T0currentAmplitude

Feature: cepstrum at a T0 found with the current window

Table 1024.9. Multivariate tests for repeated measures. The analysis results of cepstrum amplitude for different windows read at a T0 (T0current). One-way MANOVA. variables: cpstr_T0currentAmplitude#. category: Window

factor	Test	Wartość	F	Efekt	Błąd	p
Window	Wilks	0,176	3161	8	5392	0,00
	Pillai's	0,824	3161	8	5392	0,00
	Hotelling	4,690	3161	8	5392	0,00
	Roy's	4,690	3161	8	5392	0,00

Table 1024.10. Correlation coefficients between cepstrum values (cpstr_T0currentAmplitude#) for different windows; the values were read at the T0 point

Window	B_H	B_N	G_T	K_B	Hn	Hm	F_T	Rect	G_D	mean
B_H	1,000	1,000	0,998	0,996	0,971	0,955	0,934	0,736	0,021	0,8456
B_N	1,000	1,000	0,997	0,996	0,973	0,958	0,931	0,737	0,022	0,8460
G_T	0,998	0,997	1,000	0,988	0,959	0,942	0,952	0,728	0,020	0,8426
K_B	0,996	0,996	0,988	1,000	0,986	0,973	0,907	0,750	0,025	0,8468
Hn	0,971	0,973	0,959	0,986	1,000	0,991	0,873	0,789	0,034	0,8419
Hm	0,955	0,958	0,942	0,973	0,991	1,000	0,848	0,816	0,032	0,8351
F_T	0,934	0,931	0,952	0,907	0,873	0,848	1,000	0,694	0,033	0,7969
Rect	0,736	0,737	0,728	0,750	0,789	0,816	0,694	1,000	0,055	0,7006
G_D	0,021	0,022	0,020	0,025	0,034	0,032	0,033	0,055	1,000	0,1380

Table 1024.11. LSD test for repeated measures; variable cpstr_T0currentAmplitude#

Probabilities for Post Hoc Tests

Error: Within MS = 3405E2, df = 43192

Window		G_D	Rect	Hm	Hn	F_T	K_B	B_N	B_H	G_T
	mean	1007	1277	2784	2946	3143	3215	3287	3294	3311
G_D	1007		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Rect	1277	0,000		0,000	0,000	0,000	0,000	0,000	0,000	0,000
Hm	2784	0,000	0,000		0,000	0,000	0,000	0,000	0,000	0,000
Hn	2946	0,000	0,000	0,000		0,000	0,000	0,000	0,000	0,000
F_T	3143	0,000	0,000	0,000	0,000		0,000	0,000	0,000	0,000
K_B	3215	0,000	0,000	0,000	0,000	0,000		0,000	0,000	0,000
B_N	3287	0,000	0,000	0,000	0,000	0,000	0,000		0,556	0,036
B_H	3294	0,000	0,000	0,000	0,000	0,000	0,000	0,556		0,130
G_T	3311	0,000	0,000	0,000	0,000	0,000	0,000	0,036	0,130	

Test 1024.12. LSD test for repeated measures; variable cpstr_T0currentAmplitude#

Homogenous Groups. alpha = 0.05

Error: Within = 3405E2, df = 43192

Window	mean	1	2	3	4	5	6	7	8
G_D	1007	****							
Rect	1277		****						
Hm	2784			****					
Hn	2946				****				
F_T	3143					****			
K_B	3215						****		
B_N	3287							****	
B_H	3294								****
G_T	3311								

1024 points windows, variable vPSstDevValue

Variable: vPSstDevValue

Feature: dynamics – standard deviation of deconvoluted spectrum.

Table 1024.13. Multivariate tests for repeated measures. The analysis results for the variable vPSstDevValue# (dynamics)

factor	Test	Value	F	Effect	Error	p
Window	Wilksa	0.303	1549	8	5392	0.000
	Pillai'a	0.697	1549	8	5392	0.000
	Hotelln.	2.298	1549	8	5392	0.000
	Roy'a	2.298	1549	8	5392	0.000

Table 1024.14. Correlation coefficients between dynamics values (vPSstDevValue#) for different windows

Window	B_H	B_N	G_T	K_B	Hn	F_T	Hm	GD	Rect	mean
B_H	1.000	1.000	0.999	0.998	0.989	0.984	0.978	0.878	0.790	0.957
B_N	1.000	1.000	0.999	0.999	0.990	0.983	0.979	0.877	0.790	0.957
G_T	0.999	0.999	1.000	0.996	0.985	0.989	0.974	0.884	0.790	0.957
K_B	0.998	0.999	0.996	1.000	0.995	0.976	0.984	0.870	0.792	0.957
Hn	0.989	0.990	0.985	0.995	1.000	0.964	0.990	0.863	0.803	0.953
F_T	0.984	0.983	0.989	0.976	0.964	1.000	0.955	0.910	0.792	0.950
Hm	0.978	0.979	0.974	0.984	0.990	0.955	1.000	0.859	0.835	0.950
GD	0.878	0.877	0.884	0.870	0.863	0.910	0.859	1.000	0.761	0.878
Rect	0.790	0.790	0.790	0.792	0.803	0.792	0.835	0.761	1.000	0.817

Table 1024.15. LSD test for repeated measures; variable vPSstDevValue#

Probabilities for Post Hoc Tests

Error: Within MS = 0.48736, df = 43192.

Window		Rect	Hm	Hn	K_B	B_N	B_H	G_T	F_T	GD
	mean	5.33	6.33	6.50	6.55	6.59	6.60	6.63	6.89	8.01
Rect	5.33		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hm	6.33	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hn	6.50	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
K_B	6.55	0.000	0.000	0.000		0.004	0.001	0.000	0.000	0.000
B_N	6.59	0.000	0.000	0.000	0.004		0.633	0.005	0.000	0.000
B_H	6.60	0.000	0.000	0.000	0.001	0.633		0.019	0.000	0.000
G_T	6.63	0.000	0.000	0.000	0.000	0.005	0.019		0.000	0.000
F_T	6.89	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
GD	8.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table 1024.16. LSD test for repeated measures; variable vPSstDevValue#

Homogenous Groups. alpha = 0.05

Error: Within MS = 0.48736, df = 43192

Window	mean	1	2	3	4	5	6	7	8
Rect	5.33	****							
Hm	6.33		****						
Hn	6.50			****					
K_B	6.55				****				
B_N	6.59					****			
B_H	6.60						****		
G_T	6.63							****	
F_T	6.89								****
GD	8.01								

Supplement 4. T0 and F0 deviations analyses

T0 "current" differences between windows; results taken from files

"joined_#_4STAT.xlsb.Correlations-Data, where # = 64, 128, 256, 512, 1024.

E:\apl\Spectrum\Windows_Search\Windows Search_64\joined_64_4stat.xlsb

T0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0,000	0,104	0,364	0,348	0,461	0,460	0,365	0,246	0,529	0,320
B_N	0,104	0,000	0,370	0,354	0,459	0,458	0,362	0,235	0,528	0,319
F_T	0,364	0,370	0,000	0,296	0,522	0,520	0,434	0,384	0,545	0,382
G_S	0,348	0,354	0,296	0,000	0,524	0,523	0,428	0,371	0,552	0,377
G_T	0,461	0,459	0,522	0,524	0,000	0,144	0,396	0,443	0,486	0,381
Hm	0,460	0,458	0,520	0,523	0,144	0,000	0,390	0,442	0,488	0,380
Hn	0,365	0,362	0,434	0,428	0,396	0,390	0,000	0,324	0,518	0,357
K_B	0,246	0,235	0,384	0,371	0,443	0,442	0,324	0,000	0,524	0,330
Rect	0,529	0,528	0,545	0,552	0,486	0,488	0,518	0,524	0,000	0,463

F0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0	54	210	201	235	234	194	133	275	171
B_N	54	0	212	204	233	233	192	127	274	170
F_T	210	212	0	169	276	275	243	222	287	211
G_S	201	204	169	0	279	278	240	214	292	209
G_T	235	233	276	279	0	73	200	224	245	196
Hm	234	233	275	278	73	0	197	223	245	195
Hn	194	192	243	240	200	197	0	171	266	189
K_B	133	127	222	214	224	223	171	0	271	176
Rect	275	274	287	292	245	245	266	271	0	239

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T0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0,000	0,193	0,654	0,618	1,31	1,30	1,010	0,594	1,42	0,790
B_N	0,193	0,000	0,670	0,641	1,30	1,29	0,995	0,575	1,41	0,787
F_T	0,654	0,670	0,000	0,392	1,45	1,44	1,18	0,854	1,52	0,908
G_S	0,618	0,641	0,392	0,000	1,48	1,47	1,20	0,854	1,55	0,912
G_T	1,31	1,30	1,45	1,48	0,000	0,339	0,891	1,18	1,12	1,01
Hm	1,30	1,29	1,44	1,47	0,339	0,000	0,875	1,17	1,13	1,00
Hn	1,01	0,995	1,18	1,20	0,891	0,875	0,000	0,838	1,18	0,908
K_B	0,594	0,575	0,854	0,854	1,18	1,17	0,838	0,000	1,34	0,822
Rect	1,42	1,41	1,52	1,55	1,12	1,13	1,18	1,34	0,000	1,19

F0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0	56	231	225	323	320	262	164	386	219
B_N	56	0	234	229	320	316	258	158	383	217
F_T	231	234	0	151	379	377	331	270	422	266
G_S	225	229	151	0	390	387	337	271	431	269
G_T	323	320	379	390	0	89	217	286	304	256
Hm	320	316	377	387	89	0	210	282	307	254

Hn	262	258	331	337	217	210	0	215	328	240
K_B	164	158	270	271	286	282	215	0	363	223
Rect	386	383	422	431	304	307	328	363	0	325

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T0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0,00	0,606	2,34	2,57	3,07	2,98	2,74	1,83	3,39	2,17
B_N	0,606	0,00	2,43	2,65	3,01	2,93	2,68	1,74	3,35	2,15
F_T	2,34	2,43	0,00	0,870	3,93	3,86	3,67	3,01	4,17	2,70
G_S	2,57	2,65	0,87	0,00	4,15	4,08	3,89	3,23	4,37	2,87
G_T	3,07	3,01	3,93	4,15	0,00	0,773	1,39	2,47	1,88	2,29
Hm	2,98	2,93	3,86	4,08	0,773	0,00	1,21	2,36	1,97	2,24
Hn	2,74	2,68	3,67	3,89	1,39	1,21	0,00	2,05	2,18	2,20
K_B	1,83	1,74	3,01	3,23	2,47	2,36	2,05	0,00	2,91	2,18
Rect	3,39	3,35	4,17	4,37	1,88	1,97	2,18	2,91	0,00	2,69

F0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0	75	362	426	344	333	308	210	402	273
B_N	75	0	369	433	338	326	301	199	397	271
F_T	362	369	0	239	491	483	466	413	528	372
G_S	426	433	239	0	552	545	529	476	582	420
G_T	344	338	491	552	0	96	162	280	246	279
Hm	333	326	483	545	96	0	138	265	258	271
Hn	308	301	466	529	162	138	0	233	279	268
K_B	210	199	413	476	280	265	233	0	353	270
Rect	402	397	528	582	246	258	279	353	0	338

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T0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	mean
B_H	0	0,512	3,57	4,75	1,61	1,64	1,52	1,16	2,21	1,89
B_N	0,512	0	3,61	4,77	1,53	1,57	1,43	1,05	2,17	1,85
F_T	3,57	3,61	0	2,95	3,92	3,93	3,88	3,75	4,09	3,30
G_S	4,75	4,77	2,95	0	5,03	5,04	5,00	4,89	5,20	4,18
G_T	1,61	1,53	3,92	5,03	0	0,308	0,483	1,10	1,78	1,75
Hm	1,64	1,57	3,93	5,04	0,308	0	0,580	1,14	1,79	1,78
Hn	1,52	1,43	3,88	5,00	0,483	0,580	0	0,978	1,77	1,74
K_B	1,16	1,05	3,75	4,89	1,10	1,14	0,978	0	1,92	1,78
Rect	2,21	2,17	4,09	5,20	1,78	1,79	1,77	1,92	0	2,33

F0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0	51	367	564	151	152	146	113	195	193
B_N	51	0	370	565	143	145	138	101	191	189
F_T	367	370	0	441	395	395	393	382	395	349
G_S	564	565	441	0	580	581	579	573	577	496
G_T	151	143	395	580	0	29	37	100	147	176
Hm	152	145	395	581	29	0	46	103	145	177
Hn	146	138	393	579	37	46	0	94	149	176
K_B	113	101	382	573	100	103	94	0	166	181
Rect	195	191	395	577	147	145	149	166	0	218

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T0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0,000	0,142	1,48	5,10	0,425	1,26	1,06	0,663	2,96	1,45
B_N	0,142	0,000	1,48	5,10	0,449	1,26	1,05	0,648	2,96	1,45
F_T	1,48	1,479	0,000	4,86	1,433	1,84	1,71	1,57	3,22	1,96
G_S	5,10	5,104	4,86	0,000	5,09	5,24	5,20	5,14	5,84	4,62
G_T	0,425	0,449	1,43	5,09	0,000	1,31	1,12	0,763	2,95	1,50
Hm	1,26	1,256	1,84	5,24	1,31	0,000	0,734	1,11	2,91	1,74
Hn	1,06	1,050	1,71	5,20	1,12	0,734	0,000	0,845	2,87	1,62
K_B	0,663	0,648	1,57	5,14	0,763	1,11	0,845	0,000	2,92	1,52
Rect	2,96	2,957	3,22	5,84	2,95	2,91	2,87	2,92	0,000	2,96

F0 deviations

	B_H	B_N	F_T	G_S	G_T	Hm	Hn	K_B	Rect	Mean
B_H	0	11	120	547	37	79	73	53	188	123
B_N	11	0	120	547	39	78	72	52	188	123
F_T	120	120	0	536	117	130	126	123	204	164
G_S	547	547	536	0	546	548	548	548	532	484
G_T	37	39	117	546	0	84	78	60	188	128
Hm	79	78	130	548	84	0	50	67	181	135
Hn	73	72	126	548	78	50	0	55	182	131
K_B	53	52	123	548	60	67	55	0	185	127
Rect	188	188	204	532	188	181	182	185	0	205

Supplement 5. Frequency tables of T0 index

64 point windows E:\apl\Spectrum\Windows_Search\Windows Search_64\joined_64_4stat.xlsb

B_H 64	Count	Dis trib. %.	B_N 64	Count	Dis trib. %.	F_T 64	Count	Dis trib. %.
15	806	15	15	807	15	15	757	14
16	489	24	16	486	24	16	569	25
17	633	36	17	617	35	17	855	40
18	545	46	18	537	45	18	585	51
19	689	59	19	694	58	19	699	64
20	350	65	20	352	65	20	401	72
21	435	73	21	433	73	21	416	79
22	229	77	22	222	77	22	190	83
23	250	82	23	251	81	23	201	87
24	191	86	24	192	85	24	121	89
25	157	88	25	155	88	25	121	91
26	78	90	26	80	89	26	54	92
27	100	92	27	98	91	27	86	94
28	49	93	28	53	92	28	56	95
29	71	94	29	75	94	29	41	95
30	53	95	30	54	95	30	36	96
31	59	96	31	64	96	31	35	97
32	216	100	32	230	100	32	177	100
Braki	0	100	Braki	0	100	Braki	0	100

G_D 64	Count	Dis trib. %.	G_T 64	Count	Dis trib. %.	Hm 64	Count	Dis trib. %.
15	1046	19	15	498	9	15	500	9
16	664	32	16	323	15	16	336	15
17	919	49	17	346	22	17	345	22
18	608	60	18	306	27	18	299	27
19	699	73	19	412	35	19	413	35
20	307	79	20	284	40	20	280	40
21	343	85	21	287	45	21	290	46
22	132	87	22	190	49	22	193	49
23	148	90	23	262	54	23	282	54
24	80	92	24	232	58	24	234	59
25	92	93	25	266	63	25	261	64
26	38	94	26	180	66	26	183	67
27	48	95	27	226	71	27	211	71
28	38	96	28	151	73	28	148	74
29	33	96	29	189	77	29	175	77
30	18	97	30	140	79	30	136	79
31	28	97	31	152	82	31	148	82
32	159	100	32	956	100	32	966	100
Braki	0	100	Braki	0	100	Braki	0	100

Hn 64	Count	Dis trib. %.	K_B 64	Count	Dis trib. %.	Rect 64	Count	Dis trib. %.
15	701	13	15	779	14	15	452	8
16	432	21	16	477	23	16	266	13
17	508	30	17	580	34	17	297	19
18	421	38	18	488	43	18	286	24
19	561	49	19	644	55	19	315	30

20	329	55	20	388	62	20	238	34
21	336	61	21	407	70	21	237	39
22	249	66	22	232	74	22	230	43
23	250	70	23	290	79	23	238	47
24	230	74	24	213	83	24	199	51
25	219	78	25	173	87	25	236	55
26	135	81	26	101	88	26	234	60
27	169	84	27	115	91	27	240	64
28	109	86	28	65	92	28	195	68
29	142	89	29	89	93	29	247	72
30	86	90	30	42	94	30	297	78
31	149	93	31	79	96	31	227	82
32	374	100	32	238	100	32	966	100
Braki	0	100	Braki	0	100	Braki	0	100

128 point windows E:\apl\Spectrum\Windows_Search\Windows_Search_128\joined_128_4STAT.xlsb

B_H 128	Count	Dis trib. %.	B_N 128	Count	Dis trib. %.	F_T 128	Count	Dis trib. %.
15	768	14,22	15	759	14,06	15	780	14,44
16	378	21,22	16	379	21,07	16	480	23,33
17	388	28,41	17	380	28,11	17	467	31,98
18	334	34,59	18	334	34,30	18	419	39,74
19	449	42,91	19	448	42,59	19	524	49,44
20	307	48,59	20	295	48,06	20	366	56,22
21	288	53,93	21	286	53,35	21	351	62,72
22	216	57,93	22	213	57,30	22	243	67,22
23	253	62,61	23	251	61,94	23	292	72,63
24	220	66,69	24	218	65,98	24	239	77,06
25	245	71,22	25	239	70,41	25	245	81,59
26	163	74,24	26	157	73,31	26	148	84,33
27	180	77,57	27	177	76,59	27	170	87,48
28	140	80,17	28	137	79,13	28	87	89,09
29	105	82,11	29	106	81,09	29	97	90,89
30	84	83,67	30	85	82,67	30	63	92,06
31	113	85,76	31	116	84,81	31	67	93,30
32	65	86,96	32	75	86,20	32	38	94,00
33	80	88,44	33	82	87,72	33	42	94,78
34	48	89,33	34	48	88,61	34	25	95,24
35	50	90,26	35	49	89,52	35	34	95,87
36	29	90,80	36	29	90,06	36	26	96,35
37	38	91,50	37	40	90,80	37	23	96,78
38	34	92,13	38	32	91,39	38	22	97,19
39	34	92,76	39	33	92,00	39	17	97,50
40	23	93,19	40	22	92,41	40	17	97,81
41	32	93,78	41	32	93,00	41	8	97,96
42	32	94,37	42	34	93,63	42	11	98,17
43	28	94,89	43	31	94,20	43	13	98,41
44	13	95,13	44	16	94,50	44	1	98,43
45	24	95,57	45	30	95,06	45	12	98,65
46	16	95,87	46	18	95,39	46	9	98,81
47	22	96,28	47	29	95,93	47	10	99,00
48	13	96,52	48	15	96,20	48	1	99,02
49	18	96,85	49	21	96,59	49	6	99,13
50	14	97,11	50	12	96,81	50	1	99,15

51	17	97,43	51	20	97,19	51	3	99,20
52	13	97,67	52	14	97,44	52	6	99,31
53	14	97,93	53	16	97,74	53	4	99,39
54	8	98,07	54	9	97,91	54	1	99,41
55	17	98,39	55	17	98,22	55	3	99,46
56	6	98,50	56	7	98,35	56	1	99,48
57	5	98,59	57	6	98,46	57	2	99,52
58	6	98,70	58	6	98,57	58	1	99,54
59	9	98,87	59	9	98,74	59	2	99,57
60	5	98,96	60	6	98,85	60	1	99,59
61	3	99,02	61	5	98,94	61	2	99,63
62	6	99,13	62	5	99,04	62	2	99,67
63	6	99,24	63	7	99,17	63	3	99,72
64	41	100,00	64	45	100,00	64	15	100,00
Braki	0	100,00	Braki	0	100,00	Braki	0	100,00

G_D 128	Count	Dis trib. %.	G_T 128	Count	Dis trib. %.	Hm 128	Count	Dis trib. %.
15	813	15,06	15	535	9,91	15	540	10,00
16	493	24,19	16	217	13,93	16	223	14,13
17	527	33,94	17	202	17,67	17	205	17,93
18	517	43,52	18	206	21,48	18	210	21,81
19	628	55,15	19	242	25,96	19	248	26,41
20	430	63,11	20	149	28,72	20	155	29,28
21	386	70,26	21	155	31,59	21	164	32,31
22	260	75,07	22	106	33,56	22	103	34,22
23	264	79,96	23	126	35,89	23	125	36,54
24	223	84,09	24	119	38,09	24	118	38,72
25	182	87,46	25	141	40,70	25	144	41,39
26	123	89,74	26	111	42,76	26	113	43,48
27	142	92,37	27	133	45,22	27	133	45,94
28	68	93,63	28	101	47,09	28	101	47,81
29	84	95,19	29	100	48,94	29	101	49,69
30	52	96,15	30	62	50,09	30	66	50,91
31	65	97,35	31	79	51,56	31	85	52,48
32	35	98,00	32	72	52,89	32	67	53,72
33	29	98,54	33	90	54,56	33	84	55,28
34	11	98,74	34	53	55,54	34	56	56,31
35	12	98,96	35	55	56,56	35	57	57,37
36	9	99,13	36	48	57,44	36	42	58,15
37	9	99,30	37	48	58,33	37	49	59,06
38	5	99,39	38	53	59,31	38	51	60,00
39	6	99,50	39	44	60,13	39	42	60,78
40	4	99,57	40	49	61,04	40	47	61,65
41	3	99,63	41	50	61,96	41	44	62,46
42	4	99,70	42	55	62,98	42	55	63,48
43	4	99,78	43	55	64,00	43	52	64,44
44	1	99,80	44	34	64,63	44	34	65,07
45	3	99,85	45	55	65,65	45	54	66,07
46	1	99,87	46	41	66,41	46	42	66,85
49	1	99,89	47	64	67,59	47	57	67,91
52	1	99,91	48	45	68,43	48	44	68,72
53	1	99,93	49	49	69,33	49	50	69,65
55	1	99,94	50	48	70,22	50	46	70,50

63	1	99,96	51	67	71,46	51	66	71,72
64	2	100,00	52	80	72,94	52	77	73,15
Braki	0	100,00	53	96	74,72	53	91	74,83
			54	63	75,89	54	62	75,98
			55	87	77,50	55	86	77,57
			56	79	78,96	56	74	78,94
			57	101	80,83	57	98	80,76
			58	87	82,44	58	84	82,31
			59	85	84,02	59	88	83,94
			60	86	85,61	60	83	85,48
			61	81	87,11	61	79	86,94
			62	78	88,56	62	74	88,31
			63	71	89,87	63	78	89,76
			64	547	100,00	64	553	100,00
			Braki	0	100,00	Braki	0	100,00

Hn 128	Count	Dis trib. %.	K_B 128	Count	Dis trib. %.	Rect 128	Count	Dis trib. %.
15	639	11,83	15	704	13,04	15	327	6,06
16	277	16,96	16	345	19,43	16	137	8,59
17	272	22,00	17	347	25,85	17	144	11,26
18	258	26,78	18	308	31,56	18	154	14,11
19	328	32,85	19	412	39,19	19	144	16,78
20	195	36,46	20	256	43,93	20	103	18,69
21	205	40,26	21	251	48,57	21	135	21,19
22	132	42,70	22	173	51,78	22	97	22,98
23	165	45,76	23	225	55,94	23	128	25,35
24	139	48,33	24	188	59,43	24	101	27,22
25	181	51,69	25	219	63,48	25	115	29,35
26	132	54,13	26	153	66,31	26	115	31,48
27	133	56,59	27	180	69,65	27	109	33,50
28	118	58,78	28	126	71,98	28	130	35,91
29	108	60,78	29	120	74,20	29	120	38,13
30	85	62,35	30	96	75,98	30	93	39,85
31	116	64,50	31	113	78,07	31	104	41,78
32	75	65,89	32	74	79,44	32	108	43,78
33	90	67,56	33	84	81,00	33	105	45,72
34	37	68,24	34	44	81,81	34	78	47,17
35	63	69,41	35	49	82,72	35	83	48,70
36	43	70,20	36	42	83,50	36	80	50,19
37	44	71,02	37	41	84,26	37	88	51,81
38	53	72,00	38	43	85,06	38	79	53,28
39	43	72,80	39	38	85,76	39	83	54,81
40	39	73,52	40	29	86,30	40	83	56,35
41	45	74,35	41	37	86,98	41	98	58,17
42	45	75,19	42	39	87,70	42	69	59,44
43	47	76,06	43	34	88,33	43	77	60,87
44	35	76,70	44	25	88,80	44	74	62,24
45	48	77,59	45	36	89,46	45	64	63,43
46	42	78,37	46	33	90,07	46	56	64,46
47	49	79,28	47	38	90,78	47	78	65,91
48	37	79,96	48	25	91,24	48	68	67,17
49	44	80,78	49	31	91,81	49	72	68,50
50	37	81,46	50	18	92,15	50	65	69,70

51	55	82,48	51	38	92,85	51	70	71,00
52	61	83,61	52	34	93,48	52	102	72,89
53	80	85,09	53	34	94,11	53	92	74,59
54	49	86,00	54	22	94,52	54	91	76,28
55	68	87,26	55	38	95,22	55	104	78,20
56	44	88,07	56	24	95,67	56	84	79,76
57	64	89,26	57	29	96,20	57	99	81,59
58	52	90,22	58	14	96,46	58	100	83,44
59	56	91,26	59	20	96,83	59	119	85,65
60	58	92,33	60	17	97,15	60	96	87,43
61	50	93,26	61	15	97,43	61	86	89,02
62	49	94,17	62	23	97,85	62	113	91,11
63	44	94,98	63	15	98,13	63	107	93,09
64	271	100,00	64	101	100,00	64	373	100,00
Braki	0	100,00	Braki	0	100,00	Braki	0	100,00

256 points windows E:\apl\Spectrum\Windows_Search\WindowsSearch_256\Joined_256_4stat.xlsb

B_H 256	Count	Dis trib. %.	B_N 256	Count	Dis trib. %.	F_T 256	Count	Dis trib. %.
15	458	8,48	15	453	8,39	15	590	10,93
16	172	11,67	16	171	11,56	16	287	16,24
17	142	14,30	17	138	14,11	17	305	21,89
18	169	17,43	18	161	17,09	18	281	27,09
19	202	21,17	19	201	20,81	19	357	33,70
20	102	23,06	20	96	22,59	20	240	38,15
21	103	24,96	21	98	24,41	21	230	42,41
22	73	26,31	22	71	25,72	22	171	45,57
23	76	27,72	23	75	27,11	23	184	48,98
24	62	28,87	24	61	28,24	24	174	52,20
25	70	30,17	25	66	29,46	25	192	55,76
26	47	31,04	26	45	30,30	26	119	57,96
27	91	32,72	27	91	31,98	27	172	61,15
28	53	33,70	28	51	32,93	28	132	63,59
29	58	34,78	29	52	33,89	29	127	65,94
30	36	35,44	30	35	34,54	30	105	67,89
31	46	36,30	31	45	35,37	31	127	70,24
32	54	37,30	32	46	36,22	32	92	71,94
33	47	38,17	33	46	37,07	33	85	73,52
34	36	38,83	34	33	37,69	34	89	75,17
35	38	39,54	35	39	38,41	35	73	76,52
36	28	40,06	36	25	38,87	36	57	77,57
37	36	40,72	37	33	39,48	37	51	78,52
38	31	41,30	38	30	40,04	38	58	79,59
39	35	41,94	39	35	40,69	39	55	80,61
40	41	42,70	40	40	41,43	40	51	81,56
41	38	43,41	41	33	42,04	41	61	82,69
42	42	44,19	42	42	42,81	42	52	83,65
43	41	44,94	43	42	43,59	43	48	84,54
44	31	45,52	44	30	44,15	44	41	85,30
45	38	46,22	45	38	44,85	45	38	86,00
46	37	46,91	46	37	45,54	46	42	86,78
47	41	47,67	47	39	46,26	47	56	87,81
48	46	48,52	48	45	47,09	48	39	88,54
49	44	49,33	49	44	47,91	49	56	89,57

50	44	50,15	50	43	48,70	50	42	90,35
51	78	51,59	51	77	50,13	51	60	91,46
52	75	52,98	52	73	51,48	52	45	92,30
53	62	54,13	53	63	52,65	53	37	92,98
54	53	55,11	54	53	53,63	54	24	93,43
55	66	56,33	55	67	54,87	55	38	94,13
56	65	57,54	56	63	56,04	56	23	94,56
57	72	58,87	57	72	57,37	57	42	95,33
58	72	60,20	58	72	58,70	58	26	95,81
59	66	61,43	59	66	59,93	59	32	96,41
60	69	62,70	60	69	61,20	60	24	96,85
61	78	64,15	61	75	62,59	61	27	97,35
62	56	65,19	62	54	63,59	62	17	97,67
63	67	66,43	63	65	64,80	63	10	97,85
64	95	68,19	64	94	66,54	64	15	98,13
65	74	69,56	65	74	67,91	65	12	98,35
66	68	70,81	66	69	69,19	66	15	98,63
67	57	71,87	67	56	70,22	67	9	98,80
68	53	72,85	68	53	71,20	68	8	98,94
69	53	73,83	69	53	72,19	69	10	99,13
70	46	74,69	70	47	73,06	70	3	99,19
71	56	75,72	71	58	74,13	71	8	99,33
72	57	76,78	72	60	75,24	72	6	99,44
73	54	77,78	73	54	76,24	73	4	99,52
74	48	78,67	74	48	77,13	74	4	99,59
75	41	79,43	75	43	77,93	75	2	99,63
76	43	80,22	76	43	78,72	76	3	99,69
77	40	80,96	77	43	79,52	77	3	99,74
78	33	81,57	78	34	80,15	79	1	99,76
79	29	82,11	79	29	80,69	80	1	99,78
80	27	82,61	80	31	81,26	84	1	99,80
81	22	83,02	81	21	81,65	86	1	99,81
82	30	83,57	82	33	82,26	87	2	99,85
83	22	83,98	83	22	82,67	90	1	99,87
84	25	84,44	84	27	83,17	105	1	99,89
85	16	84,74	85	17	83,48	107	1	99,91
86	28	85,26	86	30	84,04	112	1	99,93
87	25	85,72	87	24	84,48	124	1	99,94
88	25	86,19	88	27	84,98	125	1	99,96
89	26	86,67	89	26	85,46	127	1	99,98
90	19	87,02	90	20	85,83	128	1	100,00
91	23	87,44	91	23	86,26	Braki	0	100,00
92	24	87,89	92	25	86,72			
93	36	88,56	93	37	87,41			
94	19	88,91	94	20	87,78			
95	28	89,43	95	27	88,28			
96	24	89,87	96	25	88,74			
97	32	90,46	97	31	89,31			
98	27	90,96	98	29	89,85			
99	29	91,50	99	32	90,44			
100	31	92,07	100	33	91,06			
101	22	92,48	101	24	91,50			
102	20	92,85	102	21	91,89			
103	21	93,24	103	23	92,31			
104	23	93,67	104	23	92,74			
105	24	94,11	105	28	93,26			

106	33	94,72	106	37	93,94
107	22	95,13	107	26	94,43
108	23	95,56	108	26	94,91
109	21	95,94	109	24	95,35
110	18	96,28	110	19	95,70
111	21	96,67	111	24	96,15
112	20	97,04	112	24	96,59
113	17	97,35	113	18	96,93
114	11	97,56	114	12	97,15
115	12	97,78	115	12	97,37
116	10	97,96	116	12	97,59
117	9	98,13	117	11	97,80
118	6	98,24	118	7	97,93
119	12	98,46	119	13	98,17
120	11	98,67	120	12	98,39
121	6	98,78	121	7	98,52
122	6	98,89	122	8	98,67
123	6	99,00	123	8	98,81
124	4	99,07	124	5	98,91
125	11	99,28	125	13	99,15
126	3	99,33	126	4	99,22
127	8	99,48	127	8	99,37
128	28	100,00	128	34	100,00
Braki	0	100,00	Braki	0	100,00

G_D	Count	Dis	G_T	Count	Dis	Hm	Count	Dis
256		trib. %.	256		trib. %.	256		trib. %.
15	657	12,17	15	264	4,89	15	288	5,33
16	362	18,87	16	82	6,41	16	89	6,98
17	397	26,22	17	43	7,20	17	52	7,94
18	374	33,15	18	69	8,48	18	74	9,31
19	457	41,61	19	70	9,78	19	74	10,69
20	341	47,93	20	25	10,24	20	33	11,30
21	298	53,44	21	27	10,74	21	32	11,89
22	245	57,98	22	19	11,09	22	19	12,24
23	272	63,02	23	11	11,30	23	17	12,56
24	257	67,78	24	11	11,50	24	10	12,74
25	258	72,56	25	13	11,74	25	15	13,02
26	168	75,67	26	6	11,85	26	7	13,15
27	188	79,15	27	16	12,15	27	20	13,52
28	138	81,70	28	9	12,31	28	11	13,72
29	144	84,37	29	4	12,39	29	5	13,81
30	104	86,30	30	4	12,46	30	5	13,91
31	119	88,50	31	1	12,48	31	1	13,93
32	68	89,76	32	7	12,61	32	8	14,07
33	62	90,91	33	7	12,74	33	8	14,22
34	64	92,09	34	9	12,91	34	8	14,37
35	67	93,33	35	3	12,96	35	4	14,44
36	34	93,96	36	6	13,07	36	5	14,54
37	46	94,81	37	10	13,26	37	13	14,78
38	27	95,31	38	11	13,46	38	12	15,00
39	36	95,98	39	5	13,56	39	5	15,09
40	22	96,39	40	18	13,89	40	17	15,41
41	26	96,87	41	16	14,19	41	15	15,69
42	25	97,33	42	23	14,61	42	23	16,11
43	22	97,74	43	25	15,07	43	25	16,57

44	17	98,06	44	16	15,37	44	16	16,87
45	12	98,28	45	17	15,69	45	17	17,19
46	12	98,50	46	25	16,15	46	23	17,61
47	15	98,78	47	28	16,67	47	29	18,15
48	11	98,98	48	27	17,17	48	27	18,65
49	8	99,13	49	31	17,74	49	30	19,20
50	7	99,26	50	24	18,19	50	26	19,69
51	13	99,50	51	62	19,33	51	63	20,85
52	11	99,70	52	53	20,31	52	54	21,85
53	1	99,72	53	44	21,13	53	44	22,67
54	2	99,76	54	42	21,91	54	43	23,46
55	3	99,81	55	43	22,70	55	43	24,26
56	1	99,83	56	53	23,69	56	55	25,28
57	1	99,85	57	58	24,76	57	58	26,35
58	1	99,87	58	68	26,02	58	66	27,57
59	2	99,91	59	60	27,13	59	64	28,76
60	1	99,93	60	60	28,24	60	61	29,89
61	1	99,94	61	70	29,54	61	71	31,20
65	1	99,96	62	46	30,39	62	48	32,09
67	1	99,98	63	59	31,48	63	59	33,19
69	1	100,00	64	81	32,98	64	83	34,72
Braki	0	100,00	65	71	34,30	65	69	36,00
			66	62	35,44	66	62	37,15
			67	52	36,41	67	53	38,13
			68	55	37,43	68	55	39,15
			69	49	38,33	69	49	40,06
			70	41	39,09	70	45	40,89
			71	59	40,19	71	59	41,98
			72	66	41,41	72	66	43,20
			73	55	42,43	73	54	44,20
			74	56	43,46	74	56	45,24
			75	53	44,44	75	51	46,19
			76	49	45,35	76	46	47,04
			77	49	46,26	77	50	47,96
			78	42	47,04	78	43	48,76
			79	36	47,70	79	33	49,37
			80	36	48,37	80	37	50,06
			81	29	48,91	81	28	50,57
			82	44	49,72	82	44	51,39
			83	31	50,30	83	31	51,96
			84	46	51,15	84	46	52,81
			85	28	51,67	85	29	53,35
			86	35	52,31	86	35	54,00
			87	43	53,11	87	41	54,76
			88	36	53,78	88	35	55,41
			89	45	54,61	89	41	56,17
			90	37	55,30	90	34	56,80
			91	47	56,17	91	45	57,63
			92	41	56,93	92	40	58,37
			93	55	57,94	93	54	59,37
			94	41	58,70	94	44	60,19
			95	55	59,72	95	52	61,15
			96	60	60,83	96	57	62,20
			97	46	61,69	97	47	63,07
			98	55	62,70	98	54	64,07
			99	74	64,07	99	73	65,43

100	57	65,13	100	53	66,41
101	66	66,35	101	62	67,56
102	56	67,39	102	54	68,56
103	53	68,37	103	55	69,57
104	74	69,74	104	72	70,91
105	70	71,04	105	66	72,13
106	77	72,46	106	79	73,59
107	67	73,70	107	64	74,78
108	65	74,91	108	60	75,89
109	72	76,24	109	71	77,20
110	67	77,48	110	68	78,46
111	72	78,81	111	75	79,85
112	70	80,11	112	63	81,02
113	71	81,43	113	63	82,19
114	61	82,56	114	57	83,24
115	63	83,72	115	61	84,37
116	56	84,76	116	52	85,33
117	53	85,74	117	52	86,30
118	60	86,85	118	57	87,35
119	70	88,15	119	67	88,59
120	64	89,33	120	63	89,76
121	69	90,61	121	65	90,96
122	48	91,50	122	46	91,81
123	73	92,85	123	71	93,13
124	37	93,54	124	36	93,80
125	47	94,41	125	44	94,61
126	35	95,06	126	29	95,15
127	40	95,80	127	37	95,83
128	227	100,00	128	225	100,00
Braki	0	100,00	Braki	0	100,00

Hn	Count	Dis	K_B	Count	Dis	Rect	Count	Dis
256	256	trib. %.	256	trib. %.	256	256	trib. %.	256
15	311	5,76	15	402	7,44	15	106	1,96
16	109	7,78	16	147	10,17	16	28	2,48
17	68	9,04	17	105	12,11	17	26	2,96
18	88	10,67	18	131	14,54	18	31	3,54
19	95	12,43	19	164	17,57	19	34	4,17
20	36	13,09	20	62	18,72	20	9	4,33
21	37	13,78	21	74	20,09	21	10	4,52
22	32	14,37	22	49	21,00	22	8	4,67
23	19	14,72	23	61	22,13	23	10	4,85
24	18	15,06	24	40	22,87	24	5	4,94
25	17	15,37	25	44	23,69	25	7	5,07
26	9	15,54	26	24	24,13	26	6	5,19
27	27	16,04	27	63	25,30	27	9	5,35
28	16	16,33	28	29	25,83	28	5	5,44
29	8	16,48	29	35	26,48	29	4	5,52
30	8	16,63	30	24	26,93	30	5	5,61
31	7	16,76	31	21	27,31	31	11	5,81
32	16	17,06	32	36	27,98	32	9	5,98
33	15	17,33	33	27	28,48	33	7	6,11
34	11	17,54	34	27	28,98	34	10	6,30
35	8	17,69	35	28	29,50	35	10	6,48
36	5	17,78	36	13	29,74	36	5	6,57
37	17	18,09	37	28	30,26	37	14	6,83

38	13	18,33	38	25	30,72	38	9	7,00
39	8	18,48	39	17	31,04	39	9	7,17
40	23	18,91	40	29	31,57	40	15	7,44
41	21	19,30	41	28	32,09	41	20	7,81
42	24	19,74	42	38	32,80	42	22	8,22
43	27	20,24	43	32	33,39	43	24	8,67
44	19	20,59	44	23	33,81	44	28	9,19
45	21	20,98	45	31	34,39	45	19	9,54
46	27	21,48	46	32	34,98	46	24	9,98
47	28	22,00	47	35	35,63	47	31	10,56
48	32	22,59	48	35	36,28	48	27	11,06
49	34	23,22	49	42	37,06	49	30	11,61
50	27	23,72	50	39	37,78	50	27	12,11
51	68	24,98	51	76	39,19	51	59	13,20
52	58	26,06	52	66	40,41	52	51	14,15
53	47	26,93	53	51	41,35	53	55	15,17
54	47	27,80	54	48	42,24	54	41	15,93
55	48	28,69	55	50	43,17	55	47	16,80
56	54	29,69	56	60	44,28	56	55	17,81
57	63	30,85	57	66	45,50	57	62	18,96
58	65	32,06	58	70	46,80	58	61	20,09
59	60	33,17	59	65	48,00	59	65	21,30
60	62	34,31	60	65	49,20	60	56	22,33
61	71	35,63	61	72	50,54	61	65	23,54
62	50	36,56	62	52	51,50	62	47	24,41
63	61	37,69	63	67	52,74	63	63	25,57
64	85	39,26	64	89	54,39	64	78	27,02
65	69	40,54	65	69	55,67	65	75	28,41
66	63	41,70	66	67	56,91	66	61	29,54
67	51	42,65	67	52	57,87	67	62	30,69
68	56	43,69	68	57	58,93	68	56	31,72
69	49	44,59	69	55	59,94	69	51	32,67
70	48	45,48	70	47	60,81	70	52	33,63
71	59	46,57	71	60	61,93	71	57	34,69
72	66	47,80	72	67	63,17	72	62	35,83
73	56	48,83	73	58	64,24	73	62	36,98
74	57	49,89	74	54	65,24	74	61	38,11
75	55	50,91	75	48	66,13	75	57	39,17
76	44	51,72	76	44	66,94	76	63	40,33
77	53	52,70	77	49	67,85	77	45	41,17
78	42	53,48	78	38	68,56	78	45	42,00
79	32	54,07	79	34	69,19	79	37	42,69
80	38	54,78	80	32	69,78	80	28	43,20
81	29	55,31	81	26	70,26	81	38	43,91
82	44	56,13	82	41	71,02	82	41	44,67
83	31	56,70	83	29	71,56	83	46	45,52
84	43	57,50	84	33	72,17	84	46	46,37
85	25	57,96	85	21	72,56	85	48	47,26
86	36	58,63	86	31	73,13	86	35	47,91
87	40	59,37	87	30	73,69	87	48	48,80
88	33	59,98	88	32	74,28	88	47	49,67
89	37	60,67	89	32	74,87	89	38	50,37
90	35	61,31	90	25	75,33	90	38	51,07
91	45	62,15	91	35	75,98	91	51	52,02
92	40	62,89	92	31	76,56	92	33	52,63
93	52	63,85	93	46	77,41	93	58	53,70

94	38	64,56	94	29	77,94	94	52	54,67
95	51	65,50	95	42	78,72	95	50	55,59
96	54	66,50	96	37	79,41	96	56	56,63
97	46	67,35	97	36	80,07	97	43	57,43
98	53	68,33	98	43	80,87	98	63	58,59
99	69	69,61	99	50	81,80	99	74	59,96
100	51	70,56	100	38	82,50	100	58	61,04
101	55	71,57	101	36	83,17	101	76	62,44
102	46	72,43	102	29	83,70	102	60	63,56
103	47	73,30	103	36	84,37	103	57	64,61
104	66	74,52	104	50	85,30	104	66	65,83
105	55	75,54	105	43	86,09	105	72	67,17
106	74	76,91	106	50	87,02	106	73	68,52
107	62	78,06	107	42	87,80	107	72	69,85
108	56	79,09	108	41	88,56	108	77	71,28
109	66	80,31	109	45	89,39	109	81	72,78
110	65	81,52	110	41	90,15	110	73	74,13
111	60	82,63	111	40	90,89	111	80	75,61
112	61	83,76	112	37	91,57	112	73	76,96
113	59	84,85	113	39	92,30	113	85	78,54
114	49	85,76	114	25	92,76	114	65	79,74
115	55	86,78	115	28	93,28	115	69	81,02
116	45	87,61	116	32	93,87	116	59	82,11
117	48	88,50	117	28	94,39	117	69	83,39
118	46	89,35	118	22	94,80	118	63	84,56
119	57	90,41	119	27	95,30	119	81	86,06
120	61	91,54	120	28	95,81	120	68	87,31
121	57	92,59	121	26	96,30	121	76	88,72
122	35	93,24	122	15	96,57	122	51	89,67
123	55	94,26	123	28	97,09	123	81	91,17
124	32	94,85	124	12	97,31	124	44	91,98
125	39	95,57	125	20	97,69	125	56	93,02
126	27	96,07	126	11	97,89	126	50	93,94
127	39	96,80	127	19	98,24	127	68	95,20
128	173	100,00	128	95	100,00	128	259	100,00
Braki	0	100,00	Braki	0	100,00	Braki	0	100,00

512 points windows E:\apl\Spectrum\Windows_Search\Windows_Search_512\joined_512_4STAT.xlsb

B_H	Count	Dis	B_N	Count	Dis	F_T	Count	Dis
512		trib. %.	512		trib. %.	512		trib. %.
15	112	2,07	15	106	1,96	15	387	7,17
16	38	2,78	16	38	2,67	16	168	10,28
17	21	3,17	17	18	3,00	17	129	12,67
18	40	3,91	18	36	3,67	18	137	15,20
19	24	4,35	19	23	4,09	19	143	17,85
20	15	4,63	20	15	4,37	20	81	19,35
21	11	4,83	21	11	4,57	21	91	21,04
22	10	5,02	22	9	4,74	22	55	22,06
23	5	5,11	23	5	4,83	23	61	23,19
24	6	5,22	24	5	4,93	24	45	24,02
25	7	5,35	25	6	5,04	25	52	24,98
26	5	5,44	26	5	5,13	26	47	25,85
27	3	5,50	27	2	5,17	27	55	26,87
28	6	5,61	28	6	5,28	28	45	27,70
29	1	5,63	29	1	5,30	29	37	28,39
31	3	5,69	31	2	5,33	30	24	28,83

32	3	5,74	32	3	5,39	31	34	29,46
33	2	5,78	33	2	5,43	32	40	30,20
34	5	5,87	34	5	5,52	33	41	30,96
35	2	5,91	36	4	5,59	34	37	31,65
36	4	5,98	37	2	5,63	35	30	32,20
37	2	6,02	38	10	5,81	36	23	32,63
38	10	6,20	39	10	6,00	37	22	33,04
39	10	6,39	40	8	6,15	38	23	33,46
40	8	6,54	41	9	6,31	39	20	33,83
41	9	6,70	42	26	6,80	40	23	34,26
42	26	7,19	43	17	7,11	41	24	34,70
43	17	7,50	44	18	7,44	42	39	35,43
44	17	7,81	45	16	7,74	43	29	35,96
45	16	8,11	46	24	8,19	44	27	36,46
46	24	8,56	47	29	8,72	45	34	37,09
47	29	9,09	48	23	9,15	46	40	37,83
48	23	9,52	49	23	9,57	47	41	38,59
49	24	9,96	50	24	10,02	48	33	39,20
50	25	10,43	51	47	10,89	49	31	39,78
51	47	11,30	52	47	11,76	50	47	40,65
52	47	12,17	53	45	12,59	51	64	41,83
53	44	12,98	54	45	13,43	52	62	42,98
54	45	13,81	55	38	14,13	53	51	43,93
55	39	14,54	56	56	15,17	54	69	45,20
56	57	15,59	57	59	16,26	55	60	46,31
57	59	16,69	58	64	17,44	56	70	47,61
58	64	17,87	59	50	18,37	57	73	48,96
59	51	18,81	60	62	19,52	58	75	50,35
60	63	19,98	61	69	20,80	59	62	51,50
61	70	21,28	62	47	21,67	60	74	52,87
62	47	22,15	63	57	22,72	61	81	54,37
63	57	23,20	64	57	23,78	62	54	55,37
64	57	24,26	65	66	25,00	63	68	56,63
65	68	25,52	66	54	26,00	64	66	57,85
66	54	26,52	67	64	27,19	65	71	59,17
67	64	27,70	68	50	28,11	66	66	60,39
68	50	28,63	69	50	29,04	67	73	61,74
69	50	29,56	70	43	29,83	68	55	62,76
70	43	30,35	71	49	30,74	69	55	63,78
71	49	31,26	72	63	31,91	70	50	64,70
72	63	32,43	73	69	33,19	71	60	65,81
73	69	33,70	74	50	34,11	72	66	67,04
74	49	34,61	75	49	35,02	73	74	68,41
75	49	35,52	76	60	36,13	74	55	69,43
76	61	36,65	77	40	36,87	75	54	70,43
77	40	37,39	78	41	37,63	76	61	71,56
78	41	38,15	79	37	38,31	77	45	72,39
79	37	38,83	80	37	39,00	78	43	73,19
80	37	39,52	81	26	39,48	79	40	73,93
81	27	40,02	82	32	40,07	80	38	74,63
82	31	40,59	83	27	40,57	81	28	75,15
83	27	41,09	84	42	41,35	82	34	75,78
84	42	41,87	85	36	42,02	83	28	76,30
85	36	42,54	86	33	42,63	84	48	77,19
86	32	43,13	87	40	43,37	85	35	77,83
87	40	43,87	88	47	44,24	86	30	78,39

88	47	44,74	89	27	44,74	87	31	78,96
89	27	45,24	90	33	45,35	88	49	79,87
90	34	45,87	91	47	46,22	89	22	80,28
91	46	46,72	92	39	46,94	90	30	80,83
92	39	47,44	93	45	47,78	91	39	81,56
93	45	48,28	94	40	48,52	92	35	82,20
94	40	49,02	95	52	49,48	93	43	83,00
95	51	49,96	96	55	50,50	94	31	83,57
96	56	51,00	97	54	51,50	95	41	84,33
97	54	52,00	98	71	52,81	96	38	85,04
98	71	53,31	99	60	53,93	97	40	85,78
99	60	54,43	100	50	54,85	98	40	86,52
100	51	55,37	101	69	56,13	99	32	87,11
101	68	56,63	102	78	57,57	100	30	87,67
102	76	58,04	103	68	58,83	101	35	88,31
103	70	59,33	104	63	60,00	102	38	89,02
104	63	60,50	105	77	61,43	103	27	89,52
105	77	61,93	106	50	62,35	104	21	89,91
106	50	62,85	107	72	63,69	105	26	90,39
107	72	64,19	108	57	64,74	106	15	90,67
108	57	65,24	109	75	66,13	107	29	91,20
109	75	66,63	110	69	67,41	108	21	91,59
110	69	67,91	111	71	68,72	109	26	92,07
111	73	69,26	112	79	70,19	110	27	92,57
112	78	70,70	113	52	71,15	111	22	92,98
113	52	71,67	114	64	72,33	112	31	93,56
114	64	72,85	115	69	73,61	113	17	93,87
115	67	74,09	116	65	74,81	114	24	94,31
116	65	75,30	117	58	75,89	115	17	94,63
117	58	76,37	118	56	76,93	116	26	95,11
118	55	77,39	119	56	77,96	117	14	95,37
119	56	78,43	120	51	78,91	118	18	95,70
120	51	79,37	121	56	79,94	119	18	96,04
121	56	80,41	122	46	80,80	120	18	96,37
122	45	81,24	123	45	81,63	121	14	96,63
123	44	82,06	124	45	82,46	122	11	96,83
124	45	82,89	125	50	83,39	123	15	97,11
125	49	83,80	126	44	84,20	124	8	97,26
126	42	84,57	127	46	85,06	125	12	97,48
127	46	85,43	128	48	85,94	126	6	97,59
128	48	86,31	129	35	86,59	127	10	97,78
129	35	86,96	130	29	87,13	128	16	98,07
130	29	87,50	131	31	87,70	129	8	98,22
131	31	88,07	132	30	88,26	130	7	98,35
132	30	88,63	133	37	88,94	131	8	98,50
133	37	89,31	134	40	89,69	132	7	98,63
134	39	90,04	135	29	90,22	133	8	98,78
135	27	90,54	136	38	90,93	134	10	98,96
136	36	91,20	137	42	91,70	135	7	99,09
137	41	91,96	138	24	92,15	136	2	99,13
138	24	92,41	139	32	92,74	137	7	99,26
139	31	92,98	140	23	93,17	138	2	99,30
140	22	93,39	141	26	93,65	139	3	99,35
141	26	93,87	142	14	93,91	140	4	99,43
142	13	94,11	143	22	94,31	141	7	99,56
143	21	94,50	144	21	94,70	142	6	99,67

144	21	94,89	145	18	95,04	143	2	99,70
145	17	95,20	146	25	95,50	146	2	99,74
146	24	95,65	147	13	95,74	148	3	99,80
147	13	95,89	148	16	96,04	149	1	99,81
148	16	96,19	149	14	96,30	150	6	99,93
149	14	96,44	150	19	96,65	152	1	99,94
150	17	96,76	151	16	96,94	153	1	99,96
151	16	97,06	152	10	97,13	169	1	99,98
152	9	97,22	153	10	97,31	256	1	100,00
153	10	97,41	154	9	97,48	Braki	0	100,00
154	9	97,57	155	7	97,61			
155	7	97,70	156	9	97,78			
156	9	97,87	157	11	97,98			
157	11	98,07	158	9	98,15			
158	8	98,22	159	6	98,26			
159	6	98,33	160	7	98,39			
160	5	98,43	161	7	98,52			
161	7	98,56	162	8	98,67			
162	7	98,69	163	5	98,76			
163	5	98,78	164	4	98,83			
164	4	98,85	165	5	98,93			
165	5	98,94	166	3	98,98			
166	2	98,98	167	1	99,00			
167	2	99,02	168	3	99,06			
168	3	99,07	169	2	99,09			
169	2	99,11	170	1	99,11			
170	1	99,13	171	3	99,17			
171	3	99,19	172	3	99,22			
172	3	99,24	173	4	99,30			
173	3	99,30	174	3	99,35			
174	3	99,35	175	4	99,43			
175	4	99,43	176	3	99,48			
176	3	99,48	177	2	99,52			
177	2	99,52	178	4	99,59			
178	4	99,59	179	1	99,61			
179	1	99,61	180	1	99,63			
180	1	99,63	181	3	99,69			
181	3	99,69	182	2	99,72			
182	2	99,72	183	1	99,74			
183	1	99,74	185	3	99,80			
185	3	99,80	186	2	99,83			
186	2	99,83	188	1	99,85			
188	1	99,85	190	1	99,87			
190	1	99,87	193	1	99,89			
193	1	99,89	196	3	99,94			
196	3	99,94	198	1	99,96			
198	1	99,96	203	1	99,98			
203	1	99,98	231	1	100,00			
231	1	100,00	Braki	0	100,00			
Braki	0	100,00						

G_D	Count	Dis	G_T	Count	Dis	Hm	Count	Dis
512		trib. %.	512		trib. %.	512		trib. %.
15	588	10,89	15	53	0,98	15	51	0,94
16	340	17,19	16	16	1,28	16	15	1,22
17	392	24,44	17	5	1,37	17	5	1,31

18	299	29,98	18	22	1,78	18	22	1,72
19	376	36,94	19	5	1,87	19	5	1,81
20	257	41,70	20	10	2,06	20	10	2,00
21	252	46,37	21	4	2,13	21	4	2,07
22	211	50,28	22	3	2,19	22	3	2,13
23	206	54,09	23	1	2,20	23	1	2,15
24	213	58,04	24	1	2,22	24	1	2,17
25	223	62,17	25	1	2,24	25	1	2,19
26	184	65,57	26	1	2,26	26	1	2,20
27	202	69,31	31	1	2,28	32	1	2,22
28	164	72,35	32	1	2,30	33	1	2,24
29	160	75,31	33	1	2,31	34	3	2,30
30	112	77,39	34	3	2,37	36	4	2,37
31	126	79,72	36	4	2,44	37	2	2,41
32	76	81,13	37	2	2,48	38	9	2,57
33	105	83,07	38	9	2,65	39	9	2,74
34	64	84,26	39	9	2,81	40	7	2,87
35	77	85,69	40	7	2,94	41	10	3,06
36	41	86,44	41	10	3,13	42	24	3,50
37	32	87,04	42	24	3,57	43	16	3,80
38	50	87,96	43	16	3,87	44	15	4,07
39	50	88,89	44	15	4,15	45	16	4,37
40	32	89,48	45	16	4,44	46	24	4,81
41	51	90,43	46	24	4,89	47	28	5,33
42	38	91,13	47	28	5,41	48	23	5,76
43	32	91,72	48	23	5,83	49	22	6,17
44	41	92,48	49	22	6,24	50	24	6,61
45	33	93,09	50	24	6,69	51	46	7,46
46	36	93,76	51	47	7,56	52	48	8,35
47	38	94,46	52	47	8,43	53	43	9,15
48	29	95,00	53	43	9,22	54	44	9,96
49	32	95,59	54	44	10,04	55	40	10,70
50	24	96,04	55	40	10,78	56	54	11,70
51	38	96,74	56	55	11,80	57	59	12,80
52	34	97,37	57	59	12,89	58	63	13,96
53	22	97,78	58	63	14,06	59	49	14,87
54	20	98,15	59	49	14,96	60	61	16,00
55	13	98,39	60	61	16,09	61	67	17,24
56	7	98,52	61	67	17,33	62	46	18,09
57	19	98,87	62	46	18,19	63	59	19,19
58	7	99,00	63	59	19,28	64	55	20,20
59	8	99,15	64	55	20,30	65	63	21,37
60	7	99,28	65	64	21,48	66	56	22,41
61	7	99,41	66	55	22,50	67	60	23,52
62	5	99,50	67	61	23,63	68	50	24,44
63	7	99,63	68	50	24,56	69	51	25,39
64	4	99,70	69	50	25,48	70	41	26,15
65	1	99,72	70	41	26,24	71	47	27,02
66	6	99,83	71	48	27,13	72	61	28,15
68	2	99,87	72	61	28,26	73	66	29,37
69	1	99,89	73	67	29,50	74	52	30,33
71	4	99,96	74	51	30,44	75	48	31,22
72	2	100,00	75	48	31,33	76	57	32,28
Braki	0	100,00	76	57	32,39	77	38	32,98
			77	38	33,09	78	42	33,76
			78	43	33,89	79	36	34,43

79	36	34,56	80	35	35,07
80	36	35,22	81	28	35,59
81	27	35,72	82	31	36,17
82	31	36,30	83	26	36,65
83	26	36,78	84	40	37,39
84	41	37,54	85	38	38,09
85	37	38,22	86	33	38,70
86	34	38,85	87	39	39,43
87	39	39,57	88	46	40,28
88	47	40,44	89	30	40,83
89	29	40,98	90	31	41,41
90	31	41,56	91	48	42,30
91	48	42,44	92	41	43,06
92	41	43,20	93	43	43,85
93	43	44,00	94	42	44,63
94	42	44,78	95	48	45,52
95	49	45,69	96	51	46,46
96	51	46,63	97	57	47,52
97	57	47,69	98	69	48,80
98	69	48,96	99	60	49,91
99	61	50,09	100	54	50,91
100	53	51,07	101	69	52,19
101	69	52,35	102	71	53,50
102	71	53,67	103	71	54,81
103	70	54,96	104	65	56,02
104	65	56,17	105	76	57,43
105	76	57,57	106	53	58,41
106	52	58,54	107	71	59,72
107	71	59,85	108	58	60,80
108	60	60,96	109	74	62,17
109	75	62,35	110	71	63,48
110	69	63,63	111	69	64,76
111	70	64,93	112	80	66,24
112	81	66,43	113	52	67,20
113	51	67,37	114	72	68,54
114	71	68,69	115	65	69,74
115	67	69,93	116	68	71,00
116	66	71,15	117	57	72,06
117	57	72,20	118	61	73,19
118	61	73,33	119	57	74,24
119	59	74,43	120	54	75,24
120	53	75,41	121	61	76,37
121	61	76,54	122	51	77,31
122	50	77,46	123	46	78,17
123	47	78,33	124	43	78,96
124	43	79,13	125	50	79,89
125	51	80,07	126	49	80,80
126	48	80,96	127	46	81,65
127	45	81,80	128	54	82,65
128	54	82,80	129	40	83,39
129	39	83,52	130	36	84,06
130	36	84,19	131	36	84,72
131	36	84,85	132	33	85,33
132	32	85,44	133	41	86,09
133	41	86,20	134	41	86,85
134	42	86,98	135	35	87,50

135	33	87,59	136	33	88,11
136	35	88,24	137	48	89,00
137	47	89,11	138	30	89,56
138	29	89,65	139	35	90,20
139	36	90,31	140	28	90,72
140	26	90,80	141	29	91,26
141	29	91,33	142	15	91,54
142	15	91,61	143	24	91,98
143	24	92,06	144	22	92,39
144	22	92,46	145	27	92,89
145	28	92,98	146	29	93,43
146	31	93,56	147	20	93,80
147	19	93,91	148	22	94,20
148	21	94,30	149	18	94,54
149	17	94,61	150	22	94,94
150	22	95,02	151	21	95,33
151	22	95,43	152	15	95,61
152	15	95,70	153	14	95,87
153	14	95,96	154	17	96,19
154	17	96,28	155	8	96,33
155	8	96,43	156	15	96,61
156	15	96,70	157	14	96,87
157	14	96,96	158	16	97,17
158	15	97,24	159	10	97,35
159	8	97,39	160	12	97,57
160	13	97,63	161	10	97,76
161	10	97,81	162	9	97,93
162	9	97,98	163	9	98,09
163	9	98,15	164	5	98,19
164	5	98,24	165	8	98,33
165	8	98,39	166	2	98,37
166	3	98,44	167	2	98,41
167	1	98,46	168	4	98,48
168	4	98,54	169	4	98,56
169	4	98,61	170	2	98,59
170	2	98,65	171	4	98,67
171	4	98,72	172	4	98,74
172	4	98,80	173	4	98,81
173	4	98,87	174	4	98,89
174	4	98,94	175	4	98,96
175	4	99,02	176	5	99,06
176	5	99,11	177	3	99,11
177	3	99,17	178	6	99,22
178	6	99,28	179	2	99,26
179	2	99,31	180	1	99,28
180	2	99,35	181	4	99,35
181	3	99,41	182	2	99,39
182	2	99,44	183	2	99,43
183	2	99,48	185	3	99,48
185	3	99,54	186	2	99,52
186	2	99,57	188	1	99,54
188	1	99,59	190	1	99,56
190	1	99,61	193	2	99,59
193	2	99,65	196	4	99,67
196	4	99,72	198	1	99,69
198	1	99,74	200	1	99,70

200	1	99,76	203	2	99,74
203	1	99,78	209	1	99,76
209	1	99,80	214	1	99,78
214	1	99,81	218	1	99,80
218	1	99,83	221	1	99,81
230	1	99,85	230	1	99,83
231	1	99,87	231	1	99,85
238	1	99,89	238	1	99,87
242	1	99,91	242	2	99,91
245	1	99,93	245	1	99,93
256	4	100,00	256	4	100,00
Braki	0	100,00	Braki	0	100,00

Hn	Count	Dis	K_B	Count	Dis	Rect	Count	Dis
512		trib. %.	512		trib. %.			trib. %.
15	57	1,06	15	80	1,48	15	64	1,19
16	17	1,37	16	30	2,04	16	15	1,46
17	4	1,44	17	4	2,11	17	13	1,70
18	22	1,85	18	30	2,67	18	14	1,96
19	7	1,98	19	16	2,96	19	22	2,37
20	12	2,20	20	13	3,20	20	7	2,50
21	3	2,26	21	5	3,30	21	5	2,59
22	4	2,33	22	7	3,43	22	6	2,70
23	2	2,37	23	3	3,48	23	2	2,74
24	1	2,39	24	4	3,56	24	8	2,89
25	3	2,44	25	3	3,61	25	8	3,04
26	1	2,46	26	3	3,67	26	2	3,07
31	1	2,48	28	2	3,70	27	1	3,09
32	1	2,50	31	1	3,72	28	4	3,17
33	1	2,52	32	2	3,76	29	3	3,22
34	3	2,57	33	2	3,80	30	2	3,26
36	4	2,65	34	4	3,87	31	6	3,37
37	2	2,69	36	4	3,94	32	2	3,41
38	9	2,85	37	2	3,98	33	5	3,50
39	9	3,02	38	9	4,15	34	5	3,59
40	7	3,15	39	10	4,33	35	9	3,76
41	10	3,33	40	8	4,48	36	5	3,85
42	24	3,78	41	9	4,65	37	4	3,93
43	16	4,07	42	26	5,13	38	11	4,13
44	15	4,35	43	16	5,43	39	9	4,30
45	16	4,65	44	15	5,70	40	8	4,44
46	24	5,09	45	16	6,00	41	14	4,70
47	28	5,61	46	24	6,44	42	28	5,22
48	23	6,04	47	29	6,98	43	17	5,54
49	22	6,44	48	23	7,41	44	18	5,87
50	25	6,91	49	22	7,81	45	17	6,19
51	46	7,76	50	24	8,26	46	25	6,65
52	47	8,63	51	47	9,13	47	24	7,09
53	43	9,43	52	47	10,00	48	24	7,54
54	44	10,24	53	45	10,83	49	22	7,94
55	40	10,98	54	45	11,67	50	23	8,37
56	54	11,98	55	38	12,37	51	46	9,22
57	60	13,09	56	56	13,41	52	53	10,20
58	63	14,26	57	59	14,50	53	44	11,02
59	49	15,17	58	63	15,67	54	46	11,87
60	61	16,30	59	50	16,59	55	35	12,52

61	67	17,54	60	61	17,72	56	56	13,56
62	46	18,39	61	69	19,00	57	64	14,74
63	58	19,46	62	45	19,83	58	62	15,89
64	56	20,50	63	57	20,89	59	55	16,91
65	64	21,69	64	57	21,94	60	53	17,89
66	56	22,72	65	65	23,15	61	70	19,19
67	60	23,83	66	54	24,15	62	52	20,15
68	49	24,74	67	61	25,28	63	50	21,07
69	51	25,69	68	51	26,22	64	57	22,13
70	43	26,48	69	50	27,15	65	65	23,33
71	47	27,35	70	43	27,94	66	53	24,31
72	61	28,48	71	48	28,83	67	60	25,43
73	66	29,70	72	62	29,98	68	46	26,28
74	52	30,67	73	68	31,24	69	60	27,39
75	48	31,56	74	50	32,17	70	41	28,15
76	57	32,61	75	50	33,09	71	46	29,00
77	39	33,33	76	59	34,19	72	56	30,04
78	43	34,13	77	40	34,93	73	59	31,13
79	35	34,78	78	41	35,69	74	61	32,26
80	36	35,44	79	36	36,35	75	47	33,13
81	27	35,94	80	37	37,04	76	59	34,22
82	31	36,52	81	25	37,50	77	44	35,04
83	26	37,00	82	32	38,09	78	40	35,78
84	41	37,76	83	27	38,59	79	30	36,33
85	37	38,44	84	41	39,35	80	39	37,06
86	34	39,07	85	36	40,02	81	22	37,46
87	40	39,81	86	33	40,63	82	31	38,04
88	47	40,69	87	41	41,39	83	32	38,63
89	28	41,20	88	47	42,26	84	37	39,31
90	32	41,80	89	27	42,76	85	29	39,85
91	48	42,69	90	32	43,35	86	32	40,44
92	40	43,43	91	47	44,22	87	36	41,11
93	43	44,22	92	40	44,96	88	44	41,93
94	41	44,98	93	45	45,80	89	28	42,44
95	49	45,89	94	40	46,54	90	32	43,04
96	52	46,85	95	51	47,48	91	45	43,87
97	55	47,87	96	54	48,48	92	38	44,57
98	70	49,17	97	54	49,48	93	41	45,33
99	62	50,31	98	72	50,81	94	41	46,09
100	51	51,26	99	60	51,93	95	48	46,98
101	71	52,57	100	51	52,87	96	48	47,87
102	74	53,94	101	69	54,15	97	51	48,81
103	68	55,20	102	77	55,57	98	67	50,06
104	65	56,41	103	68	56,83	99	55	51,07
105	76	57,81	104	63	58,00	100	47	51,94
106	52	58,78	105	76	59,41	101	69	53,22
107	71	60,09	106	51	60,35	102	76	54,63
108	60	61,20	107	72	61,69	103	61	55,76
109	75	62,59	108	59	62,78	104	57	56,81
110	67	63,83	109	75	64,17	105	68	58,07
111	73	65,19	110	69	65,44	106	62	59,22
112	79	66,65	111	71	66,76	107	66	60,44
113	51	67,59	112	79	68,22	108	67	61,69
114	71	68,91	113	51	69,17	109	65	62,89
115	68	70,17	114	69	70,44	110	72	64,22
116	65	71,37	115	68	71,70	111	60	65,33

117	59	72,46	116	66	72,93	112	67	66,57
118	59	73,56	117	59	74,02	113	55	67,59
119	58	74,63	118	59	75,11	114	59	68,69
120	53	75,61	119	56	76,15	115	66	69,91
121	61	76,74	120	54	77,15	116	53	70,89
122	48	77,63	121	57	78,20	117	55	71,91
123	50	78,56	122	49	79,11	118	48	72,80
124	43	79,35	123	48	80,00	119	65	74,00
125	50	80,28	124	44	80,81	120	57	75,06
126	48	81,17	125	51	81,76	121	56	76,09
127	45	82,00	126	45	82,59	122	42	76,87
128	53	82,98	127	46	83,44	123	37	77,56
129	39	83,70	128	54	84,44	124	46	78,41
130	37	84,39	129	39	85,17	125	51	79,35
131	35	85,04	130	33	85,78	126	48	80,24
132	34	85,67	131	31	86,35	127	35	80,89
133	40	86,41	132	35	87,00	128	49	81,80
134	41	87,17	133	39	87,72	129	33	82,41
135	33	87,78	134	40	88,46	130	34	83,04
136	42	88,56	135	30	89,02	131	37	83,72
137	45	89,39	136	42	89,80	132	28	84,24
138	27	89,89	137	43	90,59	133	47	85,11
139	36	90,56	138	24	91,04	134	32	85,70
140	27	91,06	139	33	91,65	135	39	86,43
141	30	91,61	140	24	92,09	136	31	87,00
142	16	91,91	141	28	92,61	137	35	87,65
143	26	92,39	142	15	92,89	138	23	88,07
144	23	92,81	143	23	93,31	139	32	88,67
145	24	93,26	144	22	93,72	140	23	89,09
146	28	93,78	145	22	94,13	141	22	89,50
147	19	94,13	146	25	94,59	142	27	90,00
148	21	94,52	147	16	94,89	143	21	90,39
149	17	94,83	148	19	95,24	144	19	90,74
150	24	95,28	149	16	95,54	145	30	91,30
151	19	95,63	150	20	95,91	146	19	91,65
152	15	95,91	151	19	96,26	147	14	91,91
153	15	96,19	152	13	96,50	148	20	92,28
154	16	96,48	153	12	96,72	149	11	92,48
155	10	96,67	154	12	96,94	150	21	92,87
156	13	96,91	155	10	97,13	151	21	93,26
157	16	97,20	156	10	97,31	152	14	93,52
158	13	97,44	157	14	97,57	153	16	93,81
159	7	97,57	158	12	97,80	154	18	94,15
160	13	97,81	159	5	97,89	155	9	94,31
161	9	97,98	160	8	98,04	156	10	94,50
162	11	98,19	161	8	98,19	157	15	94,78
163	9	98,35	162	11	98,39	158	14	95,04
164	5	98,44	163	8	98,54	159	12	95,26
165	7	98,57	164	5	98,63	160	10	95,44
166	2	98,61	165	6	98,74	161	10	95,63
167	2	98,65	166	2	98,78	162	12	95,85
168	4	98,72	167	2	98,81	163	4	95,93
169	4	98,80	168	4	98,89	164	8	96,07
170	2	98,83	169	3	98,94	165	3	96,13
171	3	98,89	170	2	98,98	166	7	96,26
172	4	98,96	171	3	99,04	167	3	96,31

173	4	99,04	172	3	99,09	168	6	96,43
174	4	99,11	173	4	99,17	169	3	96,48
175	4	99,19	174	3	99,22	170	1	96,50
176	5	99,28	175	4	99,30	171	9	96,67
177	3	99,33	176	4	99,37	172	1	96,69
178	7	99,46	177	3	99,43	173	6	96,80
179	2	99,50	178	5	99,52	174	8	96,94
180	1	99,52	179	2	99,56	175	8	97,09
181	3	99,57	180	1	99,57	176	5	97,19
182	2	99,61	181	3	99,63	177	5	97,28
183	2	99,65	182	2	99,67	178	5	97,37
185	2	99,69	183	2	99,70	179	4	97,44
186	3	99,74	185	3	99,76	180	1	97,46
188	1	99,76	186	2	99,80	181	3	97,52
190	1	99,78	188	1	99,81	182	4	97,59
193	1	99,80	190	1	99,83	183	1	97,61
196	3	99,85	193	1	99,85	184	1	97,63
198	1	99,87	196	3	99,91	185	5	97,72
200	1	99,89	198	1	99,93	186	2	97,76
203	1	99,91	203	1	99,94	187	1	97,78
209	1	99,93	209	1	99,96	188	2	97,81
214	1	99,94	214	1	99,98	190	3	97,87
218	1	99,96	231	1	100,00	192	2	97,91
231	1	99,98	Braki	0	100,00	193	2	97,94
246	1	100,00				194	2	97,98
Braki	0	100,00				196	2	98,02
						197	4	98,09
						198	2	98,13
						199	2	98,17
						200	2	98,20
						201	1	98,22
						202	1	98,24
						203	2	98,28
						204	5	98,37
						205	6	98,48
						207	3	98,54
						209	1	98,56
						210	1	98,57
						212	1	98,59
						213	2	98,63
						214	2	98,67
						216	1	98,69
						218	2	98,72
						219	2	98,76
						220	3	98,81
						221	1	98,83
						222	2	98,87
						223	1	98,89
						224	1	98,91
						226	3	98,96
						228	3	99,02
						229	2	99,06
						230	3	99,11
						231	5	99,20
						233	2	99,24
						235	1	99,26

236	1	99,28
238	2	99,31
239	1	99,33
240	2	99,37
241	4	99,44
242	2	99,48
243	3	99,54
244	1	99,56
245	3	99,61
246	1	99,63
249	1	99,65
250	1	99,67
252	2	99,70
254	2	99,74
255	1	99,76
256	13	100,00
Braki	0	100,00

1024 points windows E:\apl\Spectrum\Windows_Search\Windows_Search_1024\joined_1024_4stat.xlsb

B_H 1024	Count	Dis trib. %.	B_N 1024	Count	Dis trib. %.	F_T 1024	Count	Dis trib. %.
15	33	0,61	15	33	0,61	15	61	1,13
16	10	0,80	16	10	0,80	16	17	1,44
17	8	0,94	17	8	0,94	17	10	1,63
18	13	1,19	18	12	1,17	18	33	2,24
19	3	1,24	19	3	1,22	19	16	2,54
20	2	1,28	20	2	1,26	20	12	2,76
21	1	1,30	21	1	1,28	21	11	2,96
22	4	1,37	22	4	1,35	22	7	3,09
24	2	1,41	24	2	1,39	23	4	3,17
25	2	1,44	25	2	1,43	24	1	3,19
27	1	1,46	27	1	1,44	25	3	3,24
28	2	1,50	28	2	1,48	26	3	3,30
30	1	1,52	30	1	1,50	27	3	3,35
31	1	1,54	31	1	1,52	28	1	3,37
32	1	1,56	32	1	1,54	29	3	3,43
33	4	1,63	33	4	1,61	30	1	3,44
34	2	1,67	34	2	1,65	31	1	3,46
35	1	1,69	35	1	1,67	32	1	3,48
36	3	1,74	36	3	1,72	33	7	3,61
37	3	1,80	37	3	1,78	34	2	3,65
38	8	1,94	38	8	1,93	35	1	3,67
39	7	2,07	39	7	2,06	36	5	3,76
40	5	2,17	40	5	2,15	37	3	3,81
41	14	2,43	41	14	2,41	38	9	3,98
42	18	2,76	42	18	2,74	39	9	4,15
43	17	3,07	43	17	3,06	40	6	4,26
44	22	3,48	44	22	3,46	41	15	4,54
45	17	3,80	45	17	3,78	42	18	4,87
46	20	4,17	46	20	4,15	43	19	5,22
47	22	4,57	47	22	4,56	44	23	5,65
48	26	5,06	48	26	5,04	45	15	5,93
49	20	5,43	49	20	5,41	46	21	6,31
50	15	5,70	50	15	5,69	47	23	6,74
51	32	6,30	51	32	6,28	48	26	7,22
52	44	7,11	52	44	7,09	49	20	7,59

53	50	8,04	53	50	8,02	50	16	7,89
54	46	8,89	54	46	8,87	51	32	8,48
55	41	9,65	55	41	9,63	52	45	9,31
56	52	10,61	56	52	10,59	53	49	10,22
57	41	11,37	57	41	11,35	54	43	11,02
58	57	12,43	58	57	12,41	55	45	11,85
59	63	13,59	59	63	13,57	56	52	12,81
60	54	14,59	60	54	14,57	57	39	13,54
61	63	15,76	61	63	15,74	58	59	14,63
62	55	16,78	62	55	16,76	59	63	15,80
63	54	17,78	63	54	17,76	60	57	16,85
64	58	18,85	64	58	18,83	61	66	18,07
65	49	19,76	65	48	19,72	62	59	19,17
66	56	20,80	66	56	20,76	63	49	20,07
67	53	21,78	67	54	21,76	64	60	21,19
68	55	22,80	68	55	22,78	65	49	22,09
69	42	23,57	69	42	23,56	66	55	23,11
70	40	24,31	70	40	24,30	67	57	24,17
71	49	25,22	71	49	25,20	68	55	25,19
72	52	26,19	72	52	26,17	69	47	26,06
73	63	27,35	73	63	27,33	70	40	26,80
74	51	28,30	74	51	28,28	71	50	27,72
75	53	29,28	75	53	29,26	72	50	28,65
76	51	30,22	76	51	30,20	73	66	29,87
77	35	30,87	77	35	30,85	74	51	30,81
78	36	31,54	78	37	31,54	75	54	31,81
79	40	32,28	79	39	32,26	76	51	32,76
80	37	32,96	80	37	32,94	77	38	33,46
81	28	33,48	81	28	33,46	78	35	34,11
82	39	34,20	82	39	34,19	79	41	34,87
83	31	34,78	83	31	34,76	80	41	35,63
84	40	35,52	84	40	35,50	81	29	36,17
85	41	36,28	85	41	36,26	82	37	36,85
86	26	36,76	86	26	36,74	83	30	37,41
87	54	37,76	87	54	37,74	84	40	38,15
88	45	38,59	88	46	38,59	85	46	39,00
89	34	39,22	89	33	39,20	86	24	39,44
90	37	39,91	90	37	39,89	87	54	40,44
91	41	40,67	91	40	40,63	88	47	41,31
92	31	41,24	92	32	41,22	89	32	41,91
93	43	42,04	93	43	42,02	90	40	42,65
94	46	42,89	94	46	42,87	91	39	43,37
95	52	43,85	95	52	43,83	92	34	44,00
96	52	44,81	96	52	44,80	93	43	44,80
97	52	45,78	97	52	45,76	94	53	45,78
98	75	47,17	98	76	47,17	95	44	46,59
99	45	48,00	99	44	47,98	96	54	47,59
100	55	49,02	100	55	49,00	97	55	48,61
101	68	50,28	101	68	50,26	98	74	49,98
102	83	51,81	102	83	51,80	99	40	50,72
103	64	53,00	103	64	52,98	100	59	51,81
104	63	54,17	104	64	54,17	101	73	53,17
105	73	55,52	105	72	55,50	102	78	54,61
106	64	56,70	106	64	56,69	103	64	55,80
107	65	57,91	107	65	57,89	104	67	57,04
108	66	59,13	108	66	59,11	105	74	58,41

109	71	60,44	109	71	60,43	106	58	59,48
110	78	61,89	110	78	61,87	107	61	60,61
111	74	63,26	111	74	63,24	108	75	62,00
112	58	64,33	112	58	64,31	109	65	63,20
113	54	65,33	113	54	65,31	110	82	64,72
114	71	66,65	114	71	66,63	111	73	66,07
115	76	68,06	115	77	68,06	112	58	67,15
116	49	68,96	116	49	68,96	113	53	68,13
117	44	69,78	117	44	69,78	114	69	69,41
118	48	70,67	118	48	70,67	115	64	70,59
119	63	71,83	119	64	71,85	116	54	71,59
120	58	72,91	120	58	72,93	117	46	72,44
121	60	74,02	121	59	74,02	118	48	73,33
122	46	74,87	122	46	74,87	119	60	74,44
123	47	75,74	123	47	75,74	120	61	75,57
124	52	76,70	124	52	76,70	121	56	76,61
125	45	77,54	125	45	77,54	122	52	77,57
126	45	78,37	126	45	78,37	123	48	78,46
127	52	79,33	127	52	79,33	124	50	79,39
128	41	80,09	128	42	80,11	125	45	80,22
129	30	80,65	129	29	80,65	126	40	80,96
130	34	81,28	130	34	81,28	127	50	81,89
131	33	81,89	131	33	81,89	128	42	82,67
132	39	82,61	132	39	82,61	129	30	83,22
133	41	83,37	133	41	83,37	130	37	83,91
134	50	84,30	134	50	84,30	131	33	84,52
135	28	84,81	135	29	84,83	132	35	85,17
136	39	85,54	136	37	85,52	133	37	85,85
137	41	86,30	137	41	86,28	134	49	86,76
138	31	86,87	138	32	86,87	135	25	87,22
139	36	87,54	139	36	87,54	136	35	87,87
140	31	88,11	140	31	88,11	137	45	88,70
141	32	88,70	141	32	88,70	138	25	89,17
142	23	89,13	142	23	89,13	139	33	89,78
143	24	89,57	143	24	89,57	140	28	90,30
144	26	90,06	144	26	90,06	141	33	90,91
145	23	90,48	145	23	90,48	142	21	91,30
146	27	90,98	146	27	90,98	143	24	91,74
147	25	91,44	147	25	91,44	144	25	92,20
148	22	91,85	148	22	91,85	145	23	92,63
149	19	92,20	149	19	92,20	146	21	93,02
150	29	92,74	150	29	92,74	147	20	93,39
151	29	93,28	151	30	93,30	148	16	93,69
152	20	93,65	152	20	93,67	149	25	94,15
153	23	94,07	153	22	94,07	150	21	94,54
154	26	94,56	154	26	94,56	151	23	94,96
155	19	94,91	155	19	94,91	152	17	95,28
156	19	95,26	156	19	95,26	153	20	95,65
157	17	95,57	157	17	95,57	154	17	95,96
158	20	95,94	158	20	95,94	155	16	96,26
159	15	96,22	159	15	96,22	156	15	96,54
160	14	96,48	160	14	96,48	157	14	96,80
161	8	96,63	161	8	96,63	158	16	97,09
162	15	96,91	162	15	96,91	159	9	97,26
163	10	97,09	163	10	97,09	160	9	97,43
164	2	97,13	164	2	97,13	161	9	97,59

165	7	97,26	165	7	97,26	162	13	97,83
166	9	97,43	166	9	97,43	163	9	98,00
167	1	97,44	167	1	97,44	164	2	98,04
168	7	97,57	168	7	97,57	165	7	98,17
169	4	97,65	169	4	97,65	166	4	98,24
170	8	97,80	170	8	97,80	167	2	98,28
171	7	97,93	171	7	97,93	168	6	98,39
172	5	98,02	172	5	98,02	169	3	98,44
173	6	98,13	173	6	98,13	170	7	98,57
174	6	98,24	174	5	98,22	171	4	98,65
175	3	98,30	175	3	98,28	172	6	98,76
176	4	98,37	176	5	98,37	173	5	98,85
177	5	98,46	177	5	98,46	174	6	98,96
178	8	98,61	178	8	98,61	175	3	99,02
179	6	98,72	179	6	98,72	176	3	99,07
180	2	98,76	180	2	98,76	177	3	99,13
181	3	98,81	181	3	98,81	178	7	99,26
182	1	98,83	182	1	98,83	179	4	99,33
183	3	98,89	183	3	98,89	181	1	99,35
184	3	98,94	184	3	98,94	182	1	99,37
186	5	99,04	186	5	99,04	183	2	99,41
187	2	99,07	187	2	99,07	184	3	99,46
188	4	99,15	188	4	99,15	186	4	99,54
189	3	99,20	189	3	99,20	187	2	99,57
190	2	99,24	190	2	99,24	188	3	99,63
191	2	99,28	191	2	99,28	191	2	99,67
192	1	99,30	192	1	99,30	193	2	99,70
193	3	99,35	193	3	99,35	194	1	99,72
194	3	99,41	194	3	99,41	196	1	99,74
196	2	99,44	196	2	99,44	197	1	99,76
197	1	99,46	197	1	99,46	203	1	99,78
199	1	99,48	199	1	99,48	204	1	99,80
202	2	99,52	202	2	99,52	208	2	99,83
203	1	99,54	203	1	99,54	213	1	99,85
208	2	99,57	208	2	99,57	219	1	99,87
212	1	99,59	212	1	99,59	220	1	99,89
219	1	99,61	219	1	99,61	225	1	99,91
220	1	99,63	220	1	99,63	227	1	99,93
225	1	99,65	225	1	99,65	233	1	99,94
227	2	99,69	227	2	99,69	274	1	99,96
231	1	99,70	231	1	99,70	280	1	99,98
233	2	99,74	233	2	99,74	286	1	100,00
234	1	99,76	234	1	99,76	Braki	0	100,00
237	1	99,78	237	1	99,78			
244	1	99,80	244	1	99,80			
245	1	99,81	245	1	99,81			
246	1	99,83	246	1	99,83			
274	1	99,85	274	1	99,85			
276	2	99,89	276	2	99,89			
280	1	99,91	280	1	99,91			
286	1	99,93	286	1	99,93			
313	1	99,94	313	1	99,94			
345	1	99,96	345	1	99,96			
347	1	99,98	347	1	99,98			
372	1	100,00	372	1	100,00			
Braki	0	100,00	Braki	0	100,00			

G_D 1024	Count	Dis trib. %.	G_T 1024	Count	Dis trib. %.	Hm 1024	Count	Dis trib. %.
15	506	9,37	15	37	0,69	15	42	0,78
16	300	14,93	16	13	0,93	16	12	1,00
17	316	20,78	17	7	1,06	17	5	1,09
18	276	25,89	18	13	1,30	18	12	1,31
19	305	31,54	19	4	1,37	19	3	1,37
20	208	35,39	20	2	1,41	20	5	1,46
21	221	39,48	21	1	1,43	21	1	1,48
22	161	42,46	22	4	1,50	22	1	1,50
23	174	45,69	24	2	1,54	27	1	1,52
24	140	48,28	25	2	1,57	28	1	1,54
25	171	51,44	27	1	1,59	29	1	1,56
26	137	53,98	28	1	1,61	31	2	1,59
27	172	57,17	30	1	1,63	32	1	1,61
28	128	59,54	31	1	1,65	33	4	1,69
29	138	62,09	32	1	1,67	34	2	1,72
30	100	63,94	33	4	1,74	35	2	1,76
31	111	66,00	34	2	1,78	36	3	1,81
32	99	67,83	35	1	1,80	37	4	1,89
33	96	69,61	36	3	1,85	38	7	2,02
34	65	70,81	37	3	1,91	39	7	2,15
35	64	72,00	38	8	2,06	40	5	2,24
36	40	72,74	39	7	2,19	41	13	2,48
37	46	73,59	40	5	2,28	42	18	2,81
38	60	74,70	41	14	2,54	43	17	3,13
39	39	75,43	42	18	2,87	44	23	3,56
40	42	76,20	43	17	3,19	45	18	3,89
41	54	77,20	44	22	3,59	46	20	4,26
42	55	78,22	45	16	3,89	47	22	4,67
43	45	79,06	46	21	4,28	48	27	5,17
44	57	80,11	47	21	4,67	49	18	5,50
45	41	80,87	48	27	5,17	50	17	5,81
46	49	81,78	49	20	5,54	51	33	6,43
47	57	82,83	50	15	5,81	52	43	7,22
48	41	83,59	51	32	6,41	53	50	8,15
49	52	84,56	52	44	7,22	54	48	9,04
50	36	85,22	53	50	8,15	55	44	9,85
51	60	86,33	54	46	9,00	56	50	10,78
52	47	87,20	55	41	9,76	57	42	11,56
53	66	88,43	56	52	10,72	58	57	12,61
54	43	89,22	57	41	11,48	59	58	13,69
55	54	90,22	58	56	12,52	60	59	14,78
56	49	91,13	59	64	13,70	61	58	15,85
57	43	91,93	60	54	14,70	62	54	16,85
58	44	92,74	61	63	15,87	63	52	17,81
59	42	93,52	62	55	16,89	64	55	18,83
60	34	94,15	63	54	17,89	65	51	19,78
61	41	94,91	64	57	18,94	66	57	20,83
62	36	95,57	65	50	19,87	67	58	21,91
63	26	96,06	66	55	20,89	68	53	22,89
64	28	96,57	67	55	21,91	69	44	23,70
65	34	97,20	68	54	22,91	70	41	24,46
66	26	97,69	69	43	23,70	71	50	25,39
67	16	97,98	70	40	24,44	72	50	26,31

68	10	98,17	71	48	25,33	73	65	27,52
69	15	98,44	72	52	26,30	74	50	28,44
70	7	98,57	73	64	27,48	75	49	29,35
71	20	98,94	74	52	28,44	76	52	30,31
72	5	99,04	75	52	29,41	77	33	30,93
73	7	99,17	76	51	30,35	78	38	31,63
74	5	99,26	77	34	30,98	79	44	32,44
75	6	99,37	78	36	31,65	80	33	33,06
76	9	99,54	79	40	32,39	81	29	33,59
77	3	99,59	80	39	33,11	82	38	34,30
78	2	99,63	81	27	33,61	83	33	34,91
79	4	99,70	82	39	34,33	84	35	35,56
80	3	99,76	83	31	34,91	85	38	36,26
82	2	99,80	84	39	35,63	86	30	36,81
83	3	99,85	85	42	36,41	87	52	37,78
84	1	99,87	86	25	36,87	88	43	38,57
87	1	99,89	87	54	37,87	89	35	39,22
88	2	99,93	88	46	38,72	90	35	39,87
90	1	99,94	89	32	39,31	91	37	40,56
101	1	99,96	90	38	40,02	92	31	41,13
103	1	99,98	91	42	40,80	93	47	42,00
104	1	100,00	92	32	41,39	94	43	42,80
Braki	0	100,00	93	42	42,17	95	53	43,78
91	39	43,37	94	47	43,04	96	50	44,70
92	34	44,00	95	53	44,02	97	51	45,65
93	43	44,80	96	53	45,00	98	73	47,00
94	53	45,78	97	51	45,94	99	49	47,91
95	44	46,59	98	76	47,35	100	53	48,89
96	54	47,59	99	45	48,19	101	68	50,15
97	55	48,61	100	56	49,22	102	75	51,54
98	74	49,98	101	66	50,44	103	64	52,72
99	40	50,72	102	78	51,89	104	64	53,91
100	59	51,81	103	64	53,07	105	75	55,30
101	73	53,17	104	66	54,30	106	65	56,50
102	78	54,61	105	73	55,65	107	59	57,59
103	64	55,80	106	66	56,87	108	70	58,89
104	67	57,04	107	64	58,06	109	74	60,26
105	74	58,41	108	67	59,30	110	74	61,63
106	58	59,48	109	73	60,65	111	70	62,93
107	61	60,61	110	77	62,07	112	58	64,00
108	75	62,00	111	72	63,41	113	51	64,94
109	65	63,20	112	59	64,50	114	69	66,22
110	82	64,72	113	53	65,48	115	76	67,63
111	73	66,07	114	71	66,80	116	47	68,50
112	58	67,15	115	76	68,20	117	45	69,33
113	53	68,13	116	49	69,11	118	47	70,20
114	69	69,41	117	44	69,93	119	67	71,44
115	64	70,59	118	48	70,81	120	48	72,33
116	54	71,59	119	66	72,04	121	63	73,50
117	46	72,44	120	57	73,09	122	46	74,35
118	48	73,33	121	58	74,17	123	46	75,20
119	60	74,44	122	45	75,00	124	52	76,17
120	61	75,57	123	47	75,87	125	50	77,09
121	56	76,61	124	53	76,85	126	43	77,89
122	52	77,57	125	44	77,67	127	48	78,78
123	48	78,46	126	46	78,52	128	40	79,52

124	50	79,39	127	49	79,43	129	32	80,11
125	45	80,22	128	43	80,22	130	32	80,70
126	40	80,96	129	30	80,78	131	35	81,35
127	50	81,89	130	36	81,44	132	39	82,07
128	42	82,67	131	33	82,06	133	41	82,83
129	30	83,22	132	39	82,78	134	47	83,70
130	37	83,91	133	38	83,48	135	27	84,20
131	33	84,52	134	52	84,44	136	38	84,91
132	35	85,17	135	28	84,96	137	39	85,63
133	37	85,85	136	40	85,70	138	32	86,22
134	49	86,76	137	41	86,46	139	36	86,89
135	25	87,22	138	30	87,02	140	31	87,46
136	35	87,87	139	37	87,70	141	29	88,00
137	45	88,70	140	30	88,26	142	23	88,43
138	25	89,17	141	33	88,87	143	24	88,87
139	33	89,78	142	23	89,30	144	26	89,35
140	28	90,30	143	24	89,74	145	23	89,78
141	33	90,91	144	25	90,20	146	31	90,35
142	21	91,30	145	23	90,63	147	28	90,87
143	24	91,74	146	26	91,11	148	22	91,28
144	25	92,20	147	25	91,57	149	17	91,59
145	23	92,63	148	20	91,94	150	31	92,17
146	21	93,02	149	19	92,30	151	28	92,69
147	20	93,39	150	30	92,85	152	18	93,02
148	16	93,69	151	30	93,41	153	19	93,37
149	25	94,15	152	20	93,78	154	32	93,96
150	21	94,54	153	20	94,15	155	20	94,33
151	23	94,96	154	27	94,65	156	18	94,67
152	17	95,28	155	19	95,00	157	18	95,00
153	20	95,65	156	19	95,35	158	18	95,33
154	17	95,96	157	18	95,69	159	13	95,57
155	16	96,26	158	20	96,06	160	15	95,85
156	15	96,54	159	15	96,33	161	11	96,06
157	14	96,80	160	13	96,57	162	10	96,24
158	16	97,09	161	9	96,74	163	11	96,44
159	9	97,26	162	15	97,02	164	3	96,50
160	9	97,43	163	10	97,20	165	9	96,67
161	9	97,59	164	2	97,24	166	7	96,80
162	13	97,83	165	7	97,37	167	1	96,81
163	9	98,00	166	8	97,52	168	8	96,96
164	2	98,04	167	1	97,54	169	4	97,04
165	7	98,17	168	7	97,67	170	8	97,19
166	4	98,24	169	3	97,72	171	7	97,31
167	2	98,28	170	8	97,87	172	5	97,41
168	6	98,39	171	7	98,00	173	6	97,52
169	3	98,44	172	6	98,11	174	5	97,61
170	7	98,57	173	6	98,22	175	3	97,67
171	4	98,65	174	7	98,35	176	6	97,78
172	6	98,76	175	2	98,39	177	6	97,89
173	5	98,85	176	4	98,46	178	8	98,04
174	6	98,96	177	5	98,56	179	6	98,15
175	3	99,02	178	8	98,70	180	3	98,20
176	3	99,07	179	5	98,80	181	3	98,26
177	3	99,13	180	2	98,83	182	2	98,30
178	7	99,26	181	2	98,87	183	3	98,35
179	4	99,33	182	1	98,89	184	5	98,44

181	1	99,35	183	3	98,94	185	1	98,46
182	1	99,37	184	3	99,00	186	4	98,54
183	2	99,41	186	5	99,09	187	3	98,59
184	3	99,46	187	2	99,13	188	3	98,65
186	4	99,54	188	3	99,19	189	3	98,70
187	2	99,57	189	3	99,24	190	2	98,74
188	3	99,63	190	2	99,28	191	3	98,80
191	2	99,67	191	2	99,31	192	1	98,81
193	2	99,70	192	1	99,33	193	3	98,87
194	1	99,72	193	3	99,39	194	2	98,91
196	1	99,74	194	3	99,44	196	2	98,94
197	1	99,76	196	2	99,48	197	2	98,98
203	1	99,78	197	1	99,50	199	1	99,00
204	1	99,80	199	1	99,52	202	3	99,06
208	2	99,83	202	2	99,56	203	1	99,07
213	1	99,85	203	1	99,57	204	1	99,09
219	1	99,87	208	2	99,61	207	2	99,13
220	1	99,89	212	1	99,63	208	3	99,19
225	1	99,91	219	1	99,65	212	2	99,22
227	1	99,93	220	1	99,67	219	2	99,26
233	1	99,94	225	1	99,69	226	1	99,28
274	1	99,96	227	2	99,72	227	2	99,31
280	1	99,98	231	1	99,74	228	1	99,33
286	1	100,00	233	1	99,76	231	1	99,35
Braki	0	100,00	234	1	99,78	233	2	99,39

Hn	Count	Dis	K_B	Count	Dis	Rect	Count	Dis
1024		trib. %.	1024		trib. %.	1024		trib. %.
15	40	0,74	15	39	0,72	15	124	2,30
16	10	0,93	16	8	0,87	16	29	2,83
17	6	1,04	17	6	0,98	17	24	3,28
18	13	1,28	18	10	1,17	18	34	3,91
19	3	1,33	19	3	1,22	19	19	4,26
20	5	1,43	20	3	1,28	20	17	4,57
21	2	1,46	21	1	1,30	21	8	4,72
22	1	1,48	22	3	1,35	22	6	4,83
23	1	1,50	23	1	1,37	23	6	4,94
27	1	1,52	24	1	1,39	24	3	5,00
28	1	1,54	27	1	1,41	25	4	5,07
29	1	1,56	28	1	1,43	26	1	5,09
31	1	1,57	31	2	1,46	27	7	5,22
32	1	1,59	32	1	1,48	28	4	5,30
33	4	1,67	33	4	1,56	29	3	5,35
34	2	1,70	34	2	1,59	30	2	5,39
35	2	1,74	35	1	1,61	31	3	5,44
36	3	1,80	36	3	1,67	32	1	5,46
37	3	1,85	37	3	1,72	33	5	5,56
38	8	2,00	38	8	1,87	34	3	5,61
39	7	2,13	39	7	2,00	35	6	5,72
40	5	2,22	40	5	2,09	36	9	5,89
41	13	2,46	41	13	2,33	37	6	6,00
42	18	2,80	42	19	2,69	38	9	6,17
43	17	3,11	43	17	3,00	39	11	6,37
44	23	3,54	44	22	3,41	40	7	6,50
45	18	3,87	45	18	3,74	41	12	6,72
46	20	4,24	46	20	4,11	42	24	7,17

47	22	4,65	47	22	4,52	43	17	7,48
48	26	5,13	48	25	4,98	44	28	8,00
49	19	5,48	49	22	5,39	45	16	8,30
50	16	5,78	50	15	5,67	46	17	8,61
51	33	6,39	51	32	6,26	47	23	9,04
52	45	7,22	52	45	7,09	48	24	9,48
53	47	8,09	53	48	7,98	49	22	9,89
54	49	9,00	54	47	8,85	50	18	10,22
55	43	9,80	55	41	9,61	51	34	10,85
56	50	10,72	56	52	10,57	52	43	11,65
57	42	11,50	57	41	11,33	53	45	12,48
58	57	12,56	58	58	12,41	54	46	13,33
59	57	13,61	59	61	13,54	55	55	14,35
60	60	14,72	60	55	14,56	56	48	15,24
61	59	15,81	61	62	15,70	57	46	16,09
62	54	16,81	62	54	16,70	58	57	17,15
63	52	17,78	63	54	17,70	59	66	18,37
64	54	18,78	64	55	18,72	60	49	19,28
65	50	19,70	65	50	19,65	61	58	20,35
66	60	20,81	66	57	20,70	62	51	21,30
67	56	21,85	67	57	21,76	63	51	22,24
68	53	22,83	68	53	22,74	64	58	23,31
69	44	23,65	69	42	23,52	65	50	24,24
70	41	24,41	70	40	24,26	66	57	25,30
71	50	25,33	71	48	25,15	67	65	26,50
72	52	26,30	72	52	26,11	68	43	27,30
73	62	27,44	73	65	27,31	69	52	28,26
74	52	28,41	74	50	28,24	70	40	29,00
75	50	29,33	75	53	29,22	71	41	29,76
76	51	30,28	76	49	30,13	72	54	30,76
77	33	30,89	77	34	30,76	73	51	31,70
78	39	31,61	78	38	31,46	74	48	32,59
79	43	32,41	79	43	32,26	75	41	33,35
80	33	33,02	80	34	32,89	76	55	34,37
81	29	33,56	81	28	33,41	77	32	34,96
82	37	34,24	82	38	34,11	78	35	35,61
83	31	34,81	83	31	34,69	79	43	36,41
84	37	35,50	84	41	35,44	80	41	37,17
85	42	36,28	85	41	36,20	81	29	37,70
86	28	36,80	86	25	36,67	82	37	38,39
87	53	37,78	87	53	37,65	83	33	39,00
88	43	38,57	88	45	38,48	84	27	39,50
89	34	39,20	89	31	39,06	85	29	40,04
90	35	39,85	90	37	39,74	86	35	40,69
91	37	40,54	91	39	40,46	87	42	41,46
92	33	41,15	92	31	41,04	88	50	42,39
93	47	42,02	93	44	41,85	89	36	43,06
94	40	42,76	94	44	42,67	90	25	43,52
95	51	43,70	95	52	43,63	91	31	44,09
96	54	44,70	96	53	44,61	92	35	44,74
97	51	45,65	97	53	45,59	93	47	45,61
98	73	47,00	98	76	47,00	94	50	46,54
99	49	47,91	99	45	47,83	95	45	47,37
100	52	48,87	100	56	48,87	96	51	48,31
101	71	50,19	101	67	50,11	97	53	49,30
102	74	51,56	102	78	51,56	98	57	50,35

103	66	52,78	103	63	52,72	99	45	51,19
104	67	54,02	104	67	53,96	100	47	52,06
105	72	55,35	105	72	55,30	101	75	53,44
106	65	56,56	106	61	56,43	102	65	54,65
107	62	57,70	107	65	57,63	103	58	55,72
108	68	58,96	108	66	58,85	104	57	56,78
109	73	60,31	109	74	60,22	105	76	58,19
110	74	61,69	110	74	61,59	106	49	59,09
111	70	62,98	111	74	62,96	107	71	60,41
112	59	64,07	112	58	64,04	108	57	61,46
113	51	65,02	113	55	65,06	109	78	62,91
114	71	66,33	114	69	66,33	110	61	64,04
115	76	67,74	115	76	67,74	111	62	65,19
116	47	68,61	116	50	68,67	112	51	66,13
117	42	69,39	117	42	69,44	113	59	67,22
118	50	70,31	118	50	70,37	114	51	68,17
119	64	71,50	119	62	71,52	115	55	69,19
120	50	72,43	120	56	72,56	116	53	70,17
121	59	73,52	121	59	73,65	117	42	70,94
122	46	74,37	122	45	74,48	118	36	71,61
123	47	75,24	123	48	75,37	119	64	72,80
124	53	76,22	124	55	76,39	120	48	73,69
125	49	77,13	125	44	77,20	121	51	74,63
126	44	77,94	126	45	78,04	122	42	75,41
127	49	78,85	127	51	78,98	123	45	76,24
128	37	79,54	128	41	79,74	124	54	77,24
129	33	80,15	129	31	80,31	125	36	77,91
130	35	80,80	130	35	80,96	126	36	78,57
131	36	81,46	131	33	81,57	127	46	79,43
132	40	82,20	132	37	82,26	128	38	80,13
133	36	82,87	133	41	83,02	129	34	80,76
134	48	83,76	134	49	83,93	130	30	81,31
135	29	84,30	135	33	84,54	131	29	81,85
136	40	85,04	136	38	85,24	132	36	82,52
137	38	85,74	137	38	85,94	133	28	83,04
138	34	86,37	138	33	86,56	134	38	83,74
139	34	87,00	139	36	87,22	135	31	84,31
140	32	87,59	140	32	87,81	136	33	84,93
141	28	88,11	141	30	88,37	137	39	85,65
142	23	88,54	142	23	88,80	138	21	86,04
143	24	88,98	143	25	89,26	139	33	86,65
144	28	89,50	144	27	89,76	140	26	87,13
145	23	89,93	145	24	90,20	141	23	87,56
146	30	90,48	146	28	90,72	142	28	88,07
147	26	90,96	147	25	91,19	143	22	88,48
148	22	91,37	148	22	91,59	144	15	88,76
149	18	91,70	149	19	91,94	145	30	89,31
150	30	92,26	150	31	92,52	146	22	89,72
151	26	92,74	151	29	93,06	147	29	90,26
152	18	93,07	152	19	93,41	148	20	90,63
153	22	93,48	153	24	93,85	149	17	90,94
154	26	93,96	154	26	94,33	150	16	91,24
155	22	94,37	155	20	94,70	151	13	91,48
156	19	94,72	156	19	95,06	152	17	91,80
157	19	95,07	157	17	95,37	153	16	92,09
158	16	95,37	158	18	95,70	154	20	92,46

159	14	95,63	159	14	95,96	155	22	92,87
160	15	95,91	160	14	96,22	156	16	93,17
161	12	96,13	161	9	96,39	157	6	93,28
162	10	96,31	162	14	96,65	158	15	93,56
163	11	96,52	163	10	96,83	159	19	93,91
164	2	96,56	164	2	96,87	160	8	94,06
165	9	96,72	165	7	97,00	161	10	94,24
166	7	96,85	166	9	97,17	162	7	94,37
167	1	96,87	167	1	97,19	163	9	94,54
168	7	97,00	168	7	97,31	164	5	94,63
169	4	97,07	169	4	97,39	165	9	94,80
170	8	97,22	170	8	97,54	166	8	94,94
171	9	97,39	171	8	97,69	167	4	95,02
172	5	97,48	172	5	97,78	168	5	95,11
173	6	97,59	173	6	97,89	169	5	95,20
174	5	97,69	174	5	97,98	170	4	95,28
175	3	97,74	175	3	98,04	171	3	95,33
176	6	97,85	176	5	98,13	172	4	95,41
177	6	97,96	177	6	98,24	173	3	95,46
178	8	98,11	178	8	98,39	174	6	95,57
179	6	98,22	179	6	98,50	175	3	95,63
180	3	98,28	180	3	98,56	176	4	95,70
181	3	98,33	181	3	98,61	177	6	95,81
182	1	98,35	182	1	98,63	178	8	95,96
183	4	98,43	183	4	98,70	179	4	96,04
184	4	98,50	184	4	98,78	181	4	96,11
186	5	98,59	186	5	98,87	182	2	96,15
187	3	98,65	187	2	98,91	183	3	96,20
188	4	98,72	188	4	98,98	184	1	96,22
189	3	98,78	189	3	99,04	185	3	96,28
190	2	98,81	190	2	99,07	186	1	96,30
191	3	98,87	191	1	99,09	187	3	96,35
192	1	98,89	192	1	99,11	188	5	96,44
193	3	98,94	193	3	99,17	189	2	96,48
194	3	99,00	194	3	99,22	190	4	96,56
196	2	99,04	196	2	99,26	191	3	96,61
197	2	99,07	197	1	99,28	192	1	96,63
199	1	99,09	199	1	99,30	193	1	96,65
202	3	99,15	202	3	99,35	196	3	96,70
203	1	99,17	203	1	99,37	198	1	96,72
204	1	99,19	204	1	99,39	199	1	96,74
207	1	99,20	207	1	99,41	200	1	96,76
208	2	99,24	208	2	99,44	201	1	96,78
212	2	99,28	212	1	99,46	202	4	96,85
219	2	99,31	219	2	99,50	203	1	96,87
226	1	99,33	220	1	99,52	205	2	96,91
227	2	99,37	225	1	99,54	207	1	96,93
228	1	99,39	227	2	99,57	208	2	96,96
231	1	99,41	228	1	99,59	209	2	97,00
233	2	99,44	231	1	99,61	210	1	97,02
234	1	99,46	233	2	99,65	212	2	97,06
235	1	99,48	234	1	99,67	213	1	97,07
237	1	99,50	235	1	99,69	215	1	97,09
240	1	99,52	237	1	99,70	219	1	97,11
243	1	99,54	244	1	99,72	220	2	97,15
244	1	99,56	245	1	99,74	222	1	97,17

245	1	99,57	246	2	99,78	224	1	97,19
246	2	99,61	255	1	99,80	225	1	97,20
255	1	99,63	262	1	99,81	227	2	97,24
256	1	99,65	274	1	99,83	230	1	97,26
261	1	99,67	276	2	99,87	234	1	97,28
262	1	99,69	280	1	99,89	235	1	97,30
267	2	99,72	286	1	99,91	237	1	97,31
274	2	99,76	303	1	99,93	238	1	97,33
276	2	99,80	313	1	99,94	239	2	97,37
280	1	99,81	345	1	99,96	240	1	97,39
286	1	99,83	347	1	99,98	242	1	97,41
299	1	99,85	372	1	100,00	243	2	97,44
303	1	99,87	Braki	0	100,00	244	1	97,46
313	1	99,89				245	1	97,48
345	1	99,91				246	1	97,50
347	1	99,93				247	1	97,52
372	1	99,94				248	1	97,54
375	1	99,96				249	2	97,57
429	1	99,98				255	2	97,61
456	1	100,00				256	1	97,63
Braki	0	100,00				257	2	97,67
500	1	99,98				258	1	97,69
512	1	100,00				259	1	97,70
Braki	0	100,00				261	2	97,74
						264	1	97,76
						266	1	97,78
						267	3	97,83
						270	1	97,85
						271	2	97,89
						272	1	97,91
						273	1	97,93
						274	1	97,94
						276	4	98,02
						278	1	98,04
						279	2	98,07
						281	1	98,09
						283	2	98,13
						284	1	98,15
						285	1	98,17
						286	1	98,19
						289	2	98,22
						290	2	98,26
						292	1	98,28
						296	1	98,30
						297	1	98,31
						300	1	98,33
						304	1	98,35
						307	2	98,39
						308	1	98,41
						313	1	98,43
						317	1	98,44
						318	1	98,46
						321	1	98,48
						322	1	98,50
						324	2	98,54
						327	1	98,56

328	1	98,57
333	2	98,61
334	1	98,63
336	2	98,67
337	1	98,69
339	2	98,72
340	2	98,76
341	1	98,78
344	1	98,80
345	2	98,83
347	2	98,87
348	1	98,89
350	2	98,93
352	1	98,94
353	1	98,96
354	1	98,98
355	1	99,00
360	2	99,04
362	1	99,06
363	2	99,09
366	2	99,13
367	1	99,15
372	2	99,19
379	1	99,20
382	2	99,24
383	1	99,26
389	2	99,30
390	1	99,31
393	1	99,33
407	1	99,35
409	1	99,37
411	1	99,39
418	1	99,41
424	1	99,43
426	1	99,44
427	1	99,46
429	1	99,48
434	2	99,52
441	2	99,56
444	1	99,57
445	1	99,59
446	1	99,61
453	1	99,63
454	1	99,65
456	1	99,67
457	1	99,69
462	1	99,70
466	1	99,72
471	1	99,74
473	2	99,78
474	1	99,80
476	1	99,81
480	1	99,83
483	1	99,85
496	1	99,87
502	1	99,89

504	1	99,91
505	1	99,93
506	1	99,94
512	3	100,00
Braki	0	100,00

Supplement 6. Definitions of examined windows

Rectangular window

$$weight(i) = \begin{cases} 1 & \text{for } count/2 - rectFill \leq i < count/2 + rectFill \\ 0 & \text{otherwise} \end{cases}$$

for $rectFill = count/2$

Gauss' window

$$weight(i) = \frac{1}{\max} e^{-\frac{1}{2} \left(\frac{2i - count + 1}{\sigma(count-1)} \right)^2} \quad \max = e^{-\frac{1}{2} \left(\frac{1}{\sigma(count-1)} \right)^2}$$

Hann's window

$$weight(i) = \frac{0.5}{\max} \left[1 - \cos \left(\frac{2\pi i}{count-1} \right) \right] \quad \max = 0.5 \left[1 - \cos \left(\frac{\pi count}{count-1} \right) \right]$$

Hamming's window

$$weight(i) = \frac{1}{\max} \left[0.53836 - 0.46164 \cos \left(\frac{2\pi i}{count-1} \right) \right]$$

$$\max = 0.53836 - 0.46164 \cos \left(\frac{\pi}{count-1} count \right)$$

Keiser-Bessel's window

$$weight[i] = \frac{1}{\max} \left[1 - 1.24 \cos \left(\frac{2\pi}{count-1} i \right) + 0.244 \cos \left(\frac{4\pi}{count-1} i \right) - 0.00305 \cos \left(\frac{6\pi}{count-1} i \right) \right]$$

$$\max = 1 - 1.24 \cos \left(\frac{\pi count}{count-1} \right) + 0.244 \cos \left(\frac{2\pi count}{count-1} \right) - 0.00305 \cos \left(\frac{3\pi count}{count-1} \right)$$

Blackman-Harris' window

$$weights[i] = \frac{1}{\max} \left[0.35875 - 0.48829 \cos \left(\frac{2\pi}{count-1} i \right) + 0.14128 \cos \left(\frac{4\pi}{count-1} i \right) - 0.01168 \cos \left(\frac{6\pi}{count-1} i \right) \right]$$

$$\max = 0.35875 - 0.48829 \cos \left(\frac{\pi count}{count-1} \right) + 0.14128 \cos \left(\frac{2\pi count}{count-1} \right) - 0.01168 \cos \left(\frac{3\pi count}{count-1} \right)$$

Blackman-Nuttall's window

$$\text{weights}[i] = \frac{1}{\max} \left[0.3635819 - 0.4891755 \cos\left(\frac{2\pi}{\text{count}-1}i\right) + 0.1365995 \cos\left(\frac{4\pi}{\text{count}-1}i\right) - 0.0106411 \cos\left(\frac{6\pi}{\text{count}-1}i\right) \right]$$

$$\max = 0.3635819 - 0.4891755 \cos\left(\frac{\pi \text{count}}{\text{count}-1}\right) + 0.1365995 \cos\left(\frac{2\pi \text{count}}{\text{count}-1}\right) - 0.0106411 \cos\left(\frac{3\pi \text{count}}{\text{count}-1}\right)$$

Flat-top window

$$\text{weight}[i] = \frac{1}{\max} \left[\begin{array}{l} 1 - 1.933 \cos\left(\frac{2\pi}{\text{count}-1}i\right) + 1.286 \cos\left(\frac{4\pi}{\text{count}-1}i\right) - 0.388 \cos\left(\frac{6\pi}{\text{count}-1}i\right) + \\ 0.0322 \cos\left(\frac{8\pi}{\text{count}-1}i\right) \end{array} \right]$$

$$\begin{aligned} \max = & 1 - 1.933 \cos\left(\frac{\pi \text{count}}{\text{count}-1}\right) + 1.286 \cos\left(\frac{2\pi \text{count}}{\text{count}-1}\right) - 0.388 \cos\left(\frac{3\pi \text{count}}{\text{count}-1}\right) + \\ & 0.0322 \cos\left(\frac{4\pi \text{count}}{\text{count}-1}\right) \end{aligned}$$

Supplement 7. Index of data files, figures and tables

7.1. Figures index

Fig. nbr	Title	File	size
1	Power cepstra (A.b-i) and spectra after blind deconvolution (B.b-i) of some realization of the sound /e/ after applying different weighting windows; a – original signal and weighted with the Hamming window and its power spectrum after applying the Hamming window; windows width 256 pts, cepstrum(0) for deconvoluted spectrum set to 0. Cepstrum drawings are clipped, so the cepstrum(0) and cepstrum(1) are not seen	E:\apl\Spectrum\Windows_Search\windows_effects.xlsb	258 kB
2	Dynamika spektrum po ślepym rozplocie (a) i cepstra w punkcie $T0$ (b) dla różnych okien ważących (szerokość okien – 256 punktów) Dynamics of the spectrum after blind deconvolution (a) and cepstra at the $T0$ point (b) for different weighting windows (windows width – 256 points) Hm=Hamming, G=Gauss, Hn=Hann, F_T=flat-top, K_B=Keiser-Bessel, B_H=Blackman-Harris, B_N=Blackman-Nutall, Rect=rectangle, $T0=66$ pts/16 pts/ms=4,125 ms	E:\apl\Spectrum\Windows_Search\windows_effects.xlsb	
3	Cepstrum values at $T0$ for Gauss's windows for different parameters σ ; sound /e/, windows width 256 pts	E:\apl\Spectrum\Windows_Search\windows_effects.xlsb	
4	Parameter "standard deviation for optimal Gauss Windows Parametr "odchylenie standardowe" optymalnych okien Gaussa	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	17,5 MB
5	Dynamika spektrów w zależności od rodzaju okna ważącego. Słupki błędów wyrażają wartość odchylenia standardowego dynamiki; G_D – okno Gaussa optymalizowane ze względu na dynamikę spektrum po ślepym rozplocie, G_T0 – okno Gaussa optymalizowane ze względu na pomiar $T0$ Blind deconvoluted spectrum dynamics as a dependence of weighting Windows kind. Errors marks are for standard deviations; G_D – Gauss window optimized for spectrum dynamics, G_T0 – Gauss window optimized for $T0$ measurements T	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	
6. A	Wartości cepstrum w punkcie $T0$ znalezionym za pomocą okna Hamminga w zależności od rodzaju okna ważącego. Słupki błędów wyrażają wartość odchylenia standardowego Cepstrum values at $T0$ point found with the Hamming window as a dependence of weighting windows kind. Error bars show standard deviations values	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	
6.B	Wartości cepstrum w punkcie $T0$ w zależności od rodzaju okna ważącego. Słupki błędów wyrażają wartość odchylenia standardowego Cepstrum values at the $T0$ point as a dependence of weighting windows kind. Error bars show standard deviation	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	
7	Histogramy odchyłek położenia najlepszych wycinków realizacji dźwięków od środków realizacji (the Hamming window was applied) Histogramm of values of the best portions deviations from a sound's centers	E:\apl\Spectrum\Windows_Search\Histograms of deviations.xlsb	14,3 kB
8	$T0$ readings deviations from the Hamming (a), Blackman-Harris (b) Gauss $F0$ dedicated (c) and flat-top (d) windows	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4st	17,5 MB kB

Fig. nbr	Title	File	size
	readings for different windows shapes and width (squared roots of mean of squared deviations)	at.xlsb	
9	$F0$ readings deviations from the Hamming (a), Blackman-Harris (b), Gauss $F0$ dedicated (c) and flat-top (d) windows readings for different windows shapes and width (squared roots of mean of squared deviations)	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb	17,5 MB
10	Total mean deviations of $T0$ as function of windows kind and windows width	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb	
11	Total mean deviations of $F0$ as function of windows kind and windows width	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb	
12	Two examples of erroneous measurements of $T0$, signal (a) and cepstra obtained using various windows (b-j). Red vertical lines mark $T0$ values, windows width=512 points. 1-th example: addresse 234696111, slice number: 2933702, phon: "e", person: "c", gender: "M", age 2-nd example: addresse 131452598, slice number: 1643158; phon: "u", person: "T", gender: "M", age: "4".	E:\apl\Spectrum\Windows_Search\erronous_T0_measurements-2-egz.xlsb	274,2 kB
13	Graphs of contributions of erroneous measurements of $F0$	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb	17,5 MB
1.1	Cepstrum at $T0$ as function of the standard deviation parameter of a Gauss curve; C, c – children voices, M, m – male voices, W, w – female voices; capital marks are for $T0$ readings obtained with Hamming windows and lowercase letters mark for $T0$ readings obtained with current Gauss windows	E:\apl\Spectrum\Windows_Search\Windows_Search_64\GaussSearchResults_64_4stat.xlsb E:\apl\Spectrum\Windows_Search\Windows_Search_128\GaussSearchResults_128_4stat.xlsb E:\apl\Spectrum\Windows_Search\Windows_Search_256\GaussSearchResults_256_4stat.xlsb E:\apl\Spectrum\Windows_Search\Windows_Search_512\GaussSearchResults_512_4stat.xlsb E:\apl\Spectrum\Windows_Search\Windows_Search_1024\GaussSearchResults_1024_4stats.xlsb	80,5 kB 81,3 kB 82,6 kB 82,7 kB 82,5 kB
1.2	Standard deviation of blind deconvoluted spectrum as function of the standard deviation parameter of a Gauss curve; C, c – children voices, M, m – male voices, W, w – female voices	ditto	ditto
2.1	Mean correlation coefficients	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb	17,5 MB

7.2. Tables index

Table nbr	Fig. nbr	Title	File	Size
1	2	Cepstrum at $T0$ (=66 pts/16 pts/ms=4,125 ms) for different windows	E:\apl\Spectrum\Windows_Search\windows_effects.xlsb	258 kB
2	3	Cepstrum at $T0$ as function of the parameter σ of the Gauss's weighting window	E:\apl\Spectrum\Windows_Search\windows_effects.xlsb	
3	4	Optymalne odchylenia standardowe okien Gaussa w zależności od szerokości okna i zastosowań; zob. Supplement 1, Fig 1.1 oraz Fig. 1.2 Optimal standard deviation of the Gauss curve (σ) for different width of the window and for different tasks, see Supplement 1, Fig 1.1 and Fig. 1.2	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	17,5 MB

Table nbr	Fig. nbr	Title	File	Size
4	5	Dynamika spektrum po ślepym rozplocie ¹ . Wartości średnie i odchylenia standardowe dynamiki Dynamics of spectrum after blind deconvolution. Mean values and standard deviations of dynamics	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	
5.A	6.A	Wartości średnie i odchylenia standardowe cepstrum w punkcie $T0^2$ znalezionym za pomocą okna Hamminga Mean values and standard deviations of cepstrum at $T0$ point found using Hamming windows	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	
5.B	6.B	Wartości średnie i odchylenia standardowe cepstrum w punkcie $T0^3$ Mean values and standard deviations of cepstrum at $T0$ point found using current windows	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	
6	–	Table 9. Uszeregowanie okien i grupy jednorodne wg testów post-hoc, NIR Windows ranking and homogenous groups according to LSD post-hoc tests	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\Windows_Ranking.xlsb	9,3 kB
7	–	Parameters of analysis	–	–
8	7	Liczebności odchyłek położenia najlepszych wycinków realizacji dźwięków od środka realizacji Counts of the best portions deviations values from a sound center	E:\apl\Spectrum\Windows_Search\Histograms of deviations.xlsb	14,3 kB
9	8, 9	Table. 9. Odchyłki odczytów $T0$ uzyskanych z zastosowaniem poszczególnych okien od odczytów uzyskanych z użyciem okien Hamminga, Blackmana-Harrisa Gaussa dedykowanego dla pomiarów $F0$ i flat-top Deviations of the $T0$ readings obtained with different windows from these obtained with Hamming (a), Blackman-Harris (b), Gauss dedicated to $F0$ measurements (c) and flat-top (d) windows	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb	17,5 MB
10	10, 11	Mean deviations over second windows of $T0$ and $F0$ as function of windows width	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb	
11	13	Distribution of erroneous measurements of $F0$.	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xlsb.T0 freq. summary	
2.1	2.1.a	Parameter $T0_{currentIndex}$. Mean correlations coefficients values	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024_4stat.xl	
2.2	2.1.b	Parameter $cpstr_T0_{fixedAmplitude}$. Mean correlations coefficients values	ditto	
2.3	2.1.c	Parameter $vPSstDevValue_B_H$. Mean correlations coefficients values	ditto	
64#, suppl. 3	–	Results for 64 points window width	E:\apl\Spectrum\Windows_Search\Windows_Search_64\joined_64_4stat.xlsb	6,8 MB
128#, suppl. 3		Results for 128 points window width.	E:\apl\Spectrum\Windows_Search\Windows_Search_128\joined_128_4STAT.xlsb	6,9 MB
256#, suppl. 3		Results for 256 points window width	E:\apl\Spectrum\Windows_Search\WindowsSearch_256\Joined_256_4stat.xlsb	6,7 MB
512#,		Results for 512 points window width	E:\apl\Spectrum\Windows_Search	6,4 MB

¹ variable $vPSstDevMaxGaussValue$

² variable $cpstr_T0_{fixedAmplitude}$

³ variable $cpstr_T0_{currentAmplitude}$

Table nbr	Fig. nbr	Title	File	Size
suppl. 3			\\Windows_Search_512\\joined_512_4STAT.xlsb	
1024#, suppl. 3		Results for 1024 points window width.	E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_1024\\joined_1024_4stat.xlsb	6,5 MB

64, 128, 256, 512, 1024 – identifiers of collections of tables, # = 1, 16 – table nbr in collection

7.3. Sources for tables and figures

Table nbrs	Fig. nbrs	File	Size	Contents
–	–	E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_#\\joined_#.txt	8,6 MB	results of the program WindowsSearch, the program is embedded in the program SpectrumAnalyser; sources for E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_#\\joined_#_4STAT.txt files. where # = 64, 128, 256, 512, 1024
–	–	E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_#\\GaussSearchResults_#.txt	148,2 MB	sources for E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_#\\GaussSearchResults_#_4stat.xlsb files. where # = 64, 128, 256, 512, 1024
–	–	E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_#\\joined_#_4STAT.txt, removed from files set ⁴	6,5 MB	sources for statistical analysis where # = 64, 128, 256, 512, 1024
–	–	E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_#\\GaussSearchResults_#_4STAT.txt, removed from files set ⁵	146,7 MB	sources for statistical analysis where # = 64, 128, 256, 512, 1024
–	–	E:\\apl\\Spectrum\\Windows_Search\\windows_effects.txt	333,2 kB	slice analysis, data source for E:\\apl\\Spectrum\\Windows_Search\\windows_effects.xlsb
–	–	E:\\apl\\Spectrum\\Windows_Search\\Windows_weights_spectra.txt	1,87 MB	slice analysis obtained using the "diagnostic box" (see the program "Spectrum" descr.), data source for E:\\apl\\Spectrum\\Windows_Search\\Windows_weights_spectra.xlsb
–	–	E:\\apl\\Spectrum\\Windows_Search\\erronous_T0_measurements-2-egz.txt	1,5 MB	signal, spectra and cepstra from slice analysis tables of the 2 egz. with different windows – data source for E:\\apl\\Spectrum\\Windows_Search\\erronous_T0_measurements-2-egz.xlsb
–	–	E:\\apl\\Spectrum\\Windows_Search\\Windows_weights_spectra.xlsb	380 kB	sheet "Windows_weights_spectra", data and graph of a Hamming window and its spectrum
–	–	E:\\apl\\Spectrum\\Windows_Search\\joined_All_data.xlsb	19,3 MB	Here are gathered all analysis results of all examples of vowels realizations chosen for this study. There were copied here in one sheet sheets named correlation_data from all files ...\\joined_#_4STAT.xlsb
1, 2	1, 2, 3	E:\\apl\\Spectrum\\Windows_Search\\windows_effects.xlsb	258 kB	sheets: summary, windows_effects
		E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_128\\joined_128_4STAT.xlsb	6,8 MB	sheets: ♦ correlations_STAT – results of ANOVA of repeated measures, correlation and LSD post-hoc tables, ♦ correlations_Data – data for Statistica ♦ T0 frequencies
6	–	E:\\apl\\Spectrum\\Windows_Search\\Windows_Search_64_128_256_512_1024\\Windows_Ranking.xlsb	9,3 kB	Tables created on the basis of ANOVA results, i.e. post-hoc tests contained in files "joined_#_4stat.xlsb", where # = 64, 128, 256, 512, 1024
7	–	no data file	–	
8	7	E:\\apl\\Spectrum\\Windows_Search\\Histograms of	14,3	Data originating from files "joined_#.txt" where

⁴ still saved in directory "Removed"

⁵ still saved in directory "Removed"

Table nbrs	Fig. nbrs	File	Size	Contents
		deviations.xlsb	kB	#=64, 128, 256, 512, 1024. The files are results of the program WindowsSearch embedded in the program SpectrumAnalyser
3, 4, 5.A, 5.B 9, 10, 11 2.1, 2.2, 2.3	4, 5, 6.A, 6.B 8, 9, 10, 11, 13 2.1.a, 2.1.b, 2.1.c	E:\apl\Spectrum\Windows_Search\Windows_Search_64_128_256_512_1024\joined_64_128_256_512_1024.xlsb	17,5 MB	Data originate from files "joined_#_4STAT.xlsb, where #=64, 128, 256, 512, 1024 sheets: ♦ mean correlations – fig. 2.1 ♦ Joined differences matrix – table 9, fig. 8, 9 ♦ T0 differences – table 10, fig. 10, 11 ♦ T0 freq. summary – table 11, fig. 13
12	13	E:\apl\Spectrum\Windows_Search\erronous_T0_measurements-2-egz.xlsb	274 kB	sheet: erronous_T0_measurements-2-egz, signal and cepstra from slice analysis tables of the 2 egz. with different windows and their graphs. Data originate from E:\apl\Spectrum\Windows_Search\erronous_T0_measurements-2-egz.txt
–	1.1, 1.2	E:\apl\Spectrum\Windows_Search\WindowsSearch_64\GaussSearchResults_64_4stat.xlsb	80,5 kB	sheet STAT
–	ditto	E:\apl\Spectrum\Windows_Search\WindowsSearch_128\GaussSearchResults_128_4stat.xlsb	81,3 kB	sheet STAT
–	ditto	E:\apl\Spectrum\Windows_Search\WindowsSearch_256\GaussSearchResults_256_4stat.xlsb	82,6 kB	sheet STAT
–	ditto	E:\apl\Spectrum\Windows_Search\WindowsSearch_512\GaussSearchResults_512_4stat.xlsb	82,7 kB	sheet STAT
–	ditto	E:\apl\Spectrum\Windows_Search\WindowsSearch_1024\GaussSearchResults_1024_4stat.xlsb	82,5 kB	sheet STAT
9,11 64#, suppl. 3	–	E:\apl\Spectrum\Windows_Search\WindowsSearch_64\joined_64_4stat.xlsb	6,8 MB	sheets: ♦ correlations_STAT – results of ANOVA of repeated measures: correlation and LSD post-hoc tables, ♦ correlations_Data – data for Statistica, deviations of T0 and F0, deviations matrices – table 9 ♦ T0 frequencies – sources for tables 11
9,11 128#, suppl. 3		E:\apl\Spectrum\Windows_Search\Windows_Search_128\joined_128_4STAT.xlsb	6,9 MB	sheets: ♦ correlations_STAT – results of ANOVA of repeated measures: correlation and LSD post-hoc tables, ♦ correlations_Data – data for Statistica, deviations of T0 and F0, deviations matrices – table 9 ♦ T0 frequencies – sources for tables 11
9,11 256#, suppl. 3		E:\apl\Spectrum\Windows_Search\WindowsSearch_256\Joined_256_4stat.xlsb	6,7 MB	sheets: ♦ correlations_STAT – results of ANOVA of repeated measures: correlation and LSD post-hoc tables, ♦ correlations_Data – data for Statistica, deviations of T0 and F0, deviations matrices – table 9 ♦ T0 frequencies – sources for tables 11
9,11 512#, suppl. 3		E:\apl\Spectrum\Windows_Search\Windows_Search_512\joined_512_4STAT.xlsb	6,4 MB	sheets: ♦ correlations_STAT – results of ANOVA of repeated measures: correlation and LSD post-hoc tables, ♦ correlations_Data – data for Statistica, deviations of T0 and F0, deviations matrices – table 9 ♦ T0 frequencies – sources for tables 11

Table nbrs	Fig. nbrs	File	Size	Contents
9,11 1024#, suppl. 3		E:\apl\Spectrum\Windows_Search\Windows_Search_1024\joined_1024_4stat.xlsb	6,5 MB	sheets: ♦ correlations_STAT – results of ANOVA of repeated measures: correlation and LSD post-hoc tables, ♦ correlations_Data – data for Statistica, deviations of T0 and F0, deviations matrices – table 9 ♦ T0 frequencies – sources for tables 11

64#, 256#, 512#, 1024# – tables collections, ANOVA results

7.4. Data processing summary

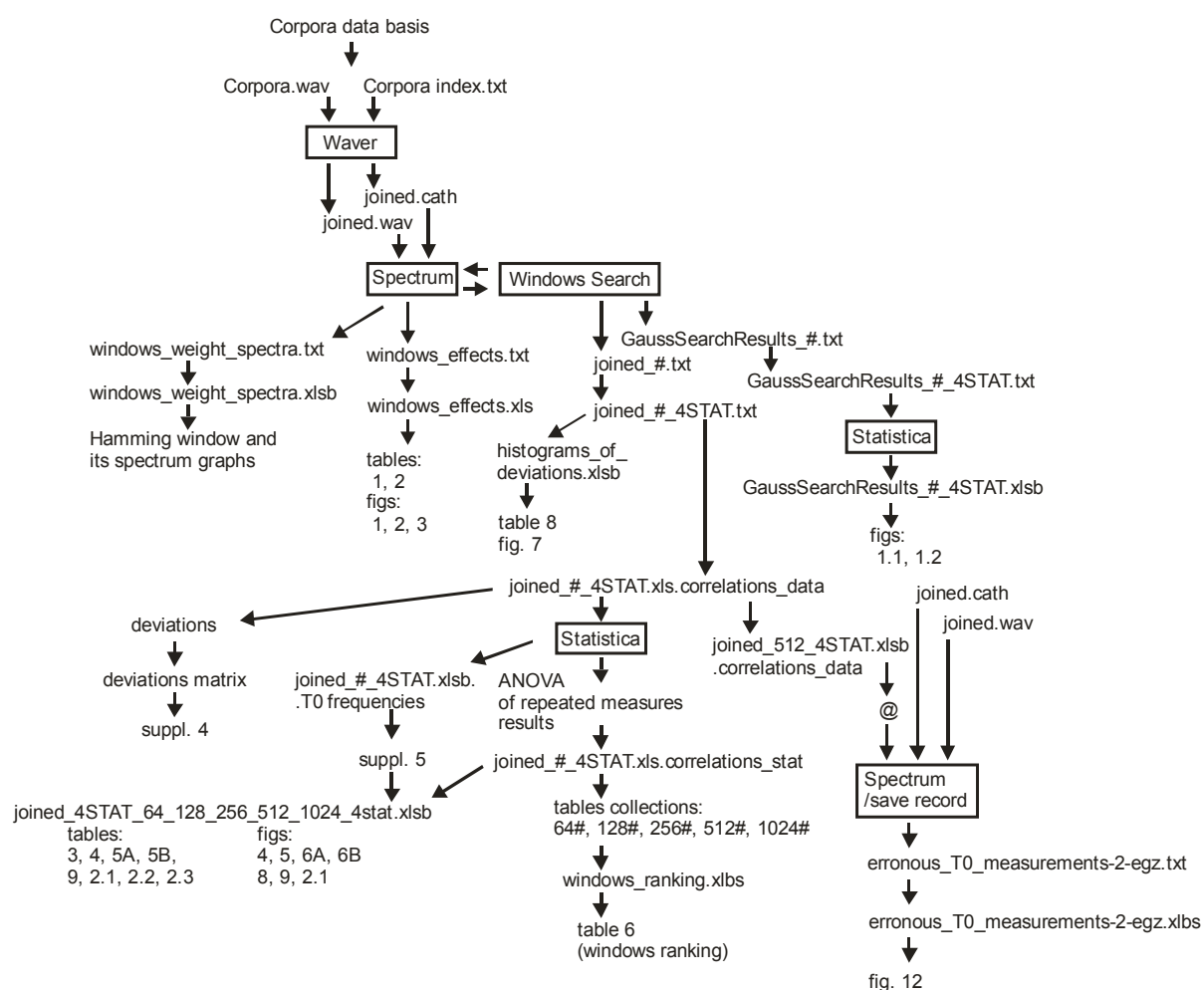


Fig. 5.1. Data processing scheme

in files collections names. i.e. *_#_*.*, means Windows width, i.e. # = 64|128|256|512|1024

in tables collection names, i.e. 64#, 128#, 256#, 512#, 1024# means table nbr, i.e. # = 1, ..., 16

Badania wymagały kilkustopniowego przetwarzania danych.

Dane bazy Corpora zostały sprowadzone do dwóch plików *joined.wav* i *joined.cath* zawierające zapis sygnałów mowy oraz kategoryzacje wszystkich dźwięków (*phoneme*, *person*, *gender*, *age*). Te dane były źródłem dla analiz spektralnych. Program *WindowsSearch* wybierał stosowne wycinki i przesyłał je do analiz spektralnych.

Wyniki były gromadzone w plikach dwóch rodzajów: *joined.txt* oraz *GaussSearchResults.txt*. Pliki *joined.txt* zawierały dane dotyczące analiz z użyciem każdego okna. Dla okien Gaussa były to efekty uzyskane z użyciem okien optymalnych, podczas gdy pliki *GaussSearchResults.txt* zawierały efekty użycia okien Gaussa dla 200 wartości parametru "odchylenie standardowe" krzywej. Taki podział został zastosowany ze względu na wielki rozmiar wyników analiz okien gaussowskich (148 MB).

W wyniku otrzymywano pliki tekstowe, które należało przystosować do przetwarzania za pomocą programu Statistica PL (usunięcie objaśnień, zamiana kropek dziesiętnych na przecinki itp.). Te pliki nazwano *joined_4Stat.txt* oraz *GaussSearchResults_4Stat.txt*.

Do celów ANOVA i analizy korelacji należało dane zaaranżować zgodnie z wymogami programu Statistica – parametry otrzymane z analiz różnymi oknami są traktowane jako nowe zmienne, więc należało je ułożyć w równoległych kolumnach, podczas gdy w plikach *.txt otrzymanych z WindowsSearch były ułożone w tych samych kolumnach. Aranżację wykonano za pomocą programu Excel stąd pojawiły się pliki z rozszerzeniem *xlsb*. Dane te były lokowane w arkuszach o nazwie *correlations_data*.

Wyniki analiz statystycznych były przenoszone do arkuszy Excela, do tych samych plików, w których znajdowały się dane. Wyniki były lokowane w arkuszach o nazwie *correlations_stat*. W nazwach plików występują też kwalifikatory oznakowane symbolem # odnoszące się do szerokości okien ważących lub numerów tabel wyników ANOVA (patrz rys. 5.1).