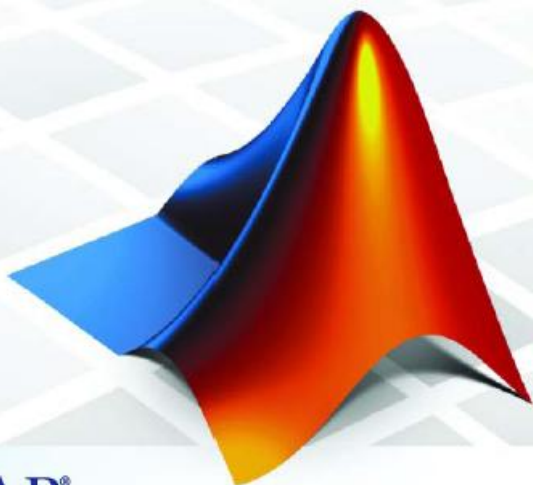


Laserowe Metody Diagnostyki i Terapii

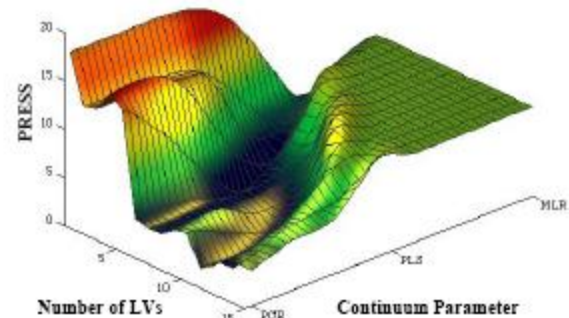
**Opracowanie danych z wykorzystaniem metod
chemometrycznych.**

MATLAB® & Simulink®
Release Notes for R2007b



**MATLAB®
& SIMULINK®**

 **The MathWorks™**
Accelerating the pace of engineering and science



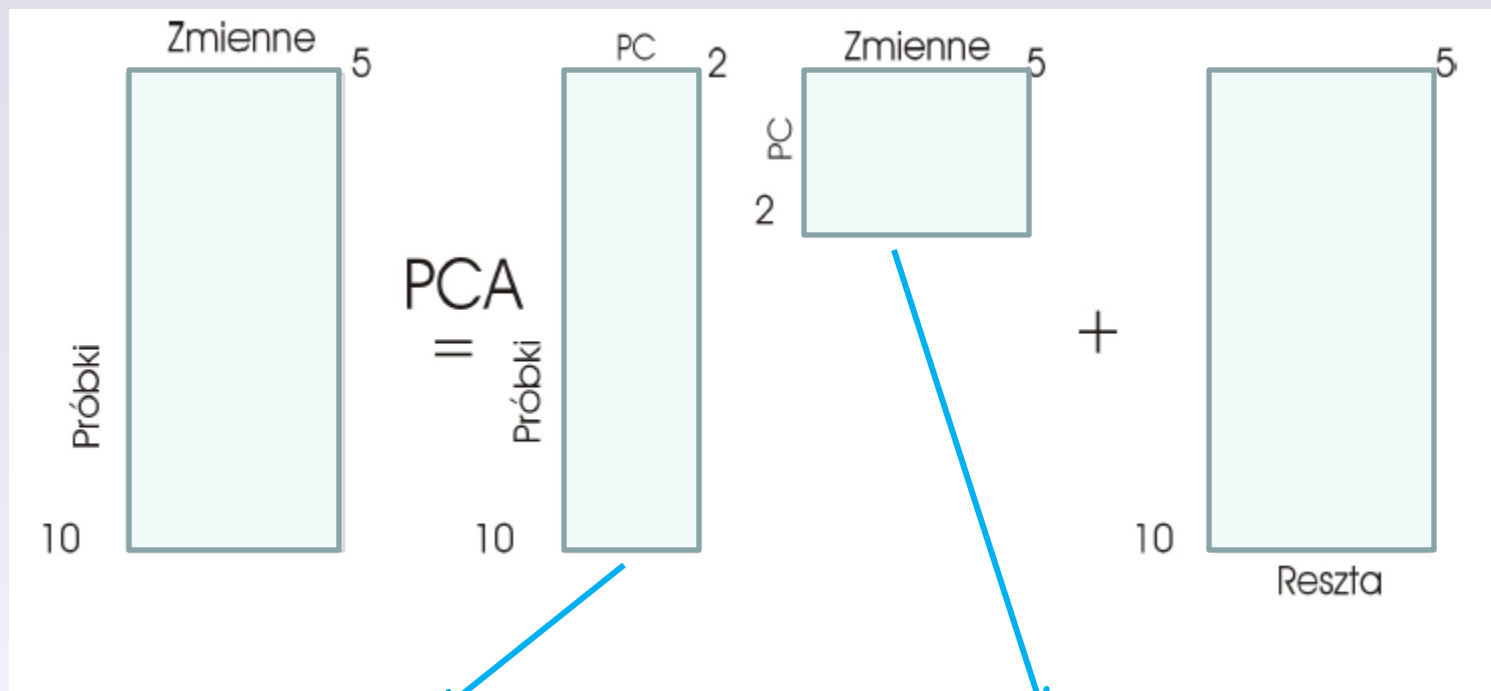
PLS_Toolbox 4.0

for use with MATLAB™

Barry M. Wise
Neal B. Gallagher
Rasmus Bro

Jeremy M. Shaver
Willem Windig
R. Scott Koch

 **EIGENVECTOR**
RESEARCH INCORPORATED

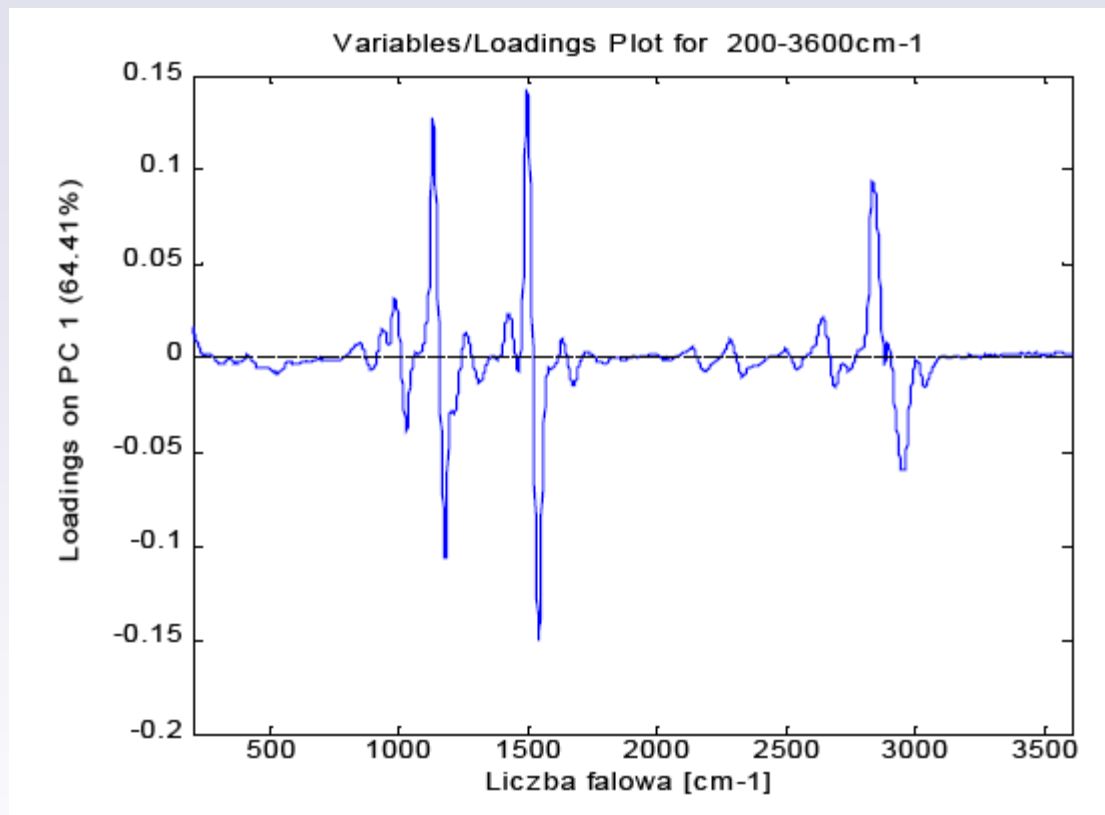


Projekcja czynników głównych
(zależność pomiędzy próbkami),
macierz „scores”.

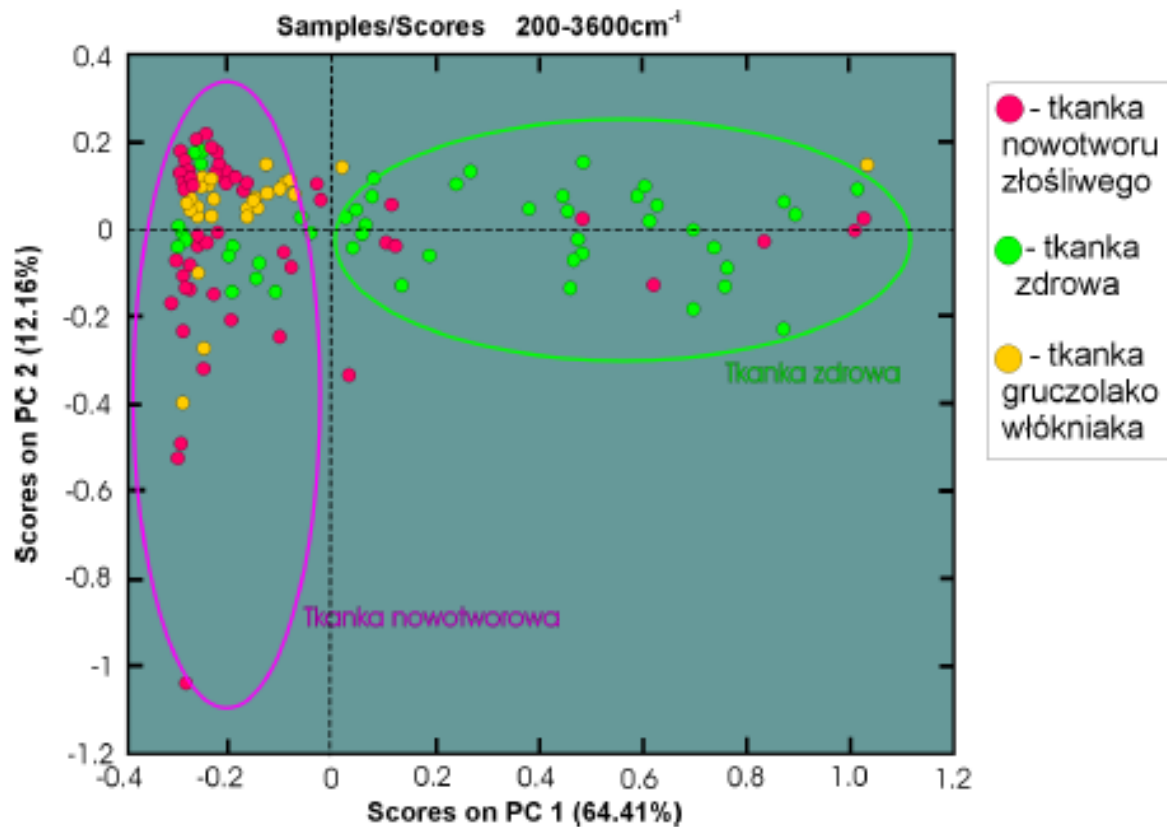
Projekcja wag (zależność
pomiędzy zmiennymi),
macierz „loadings”.

Model PCA.

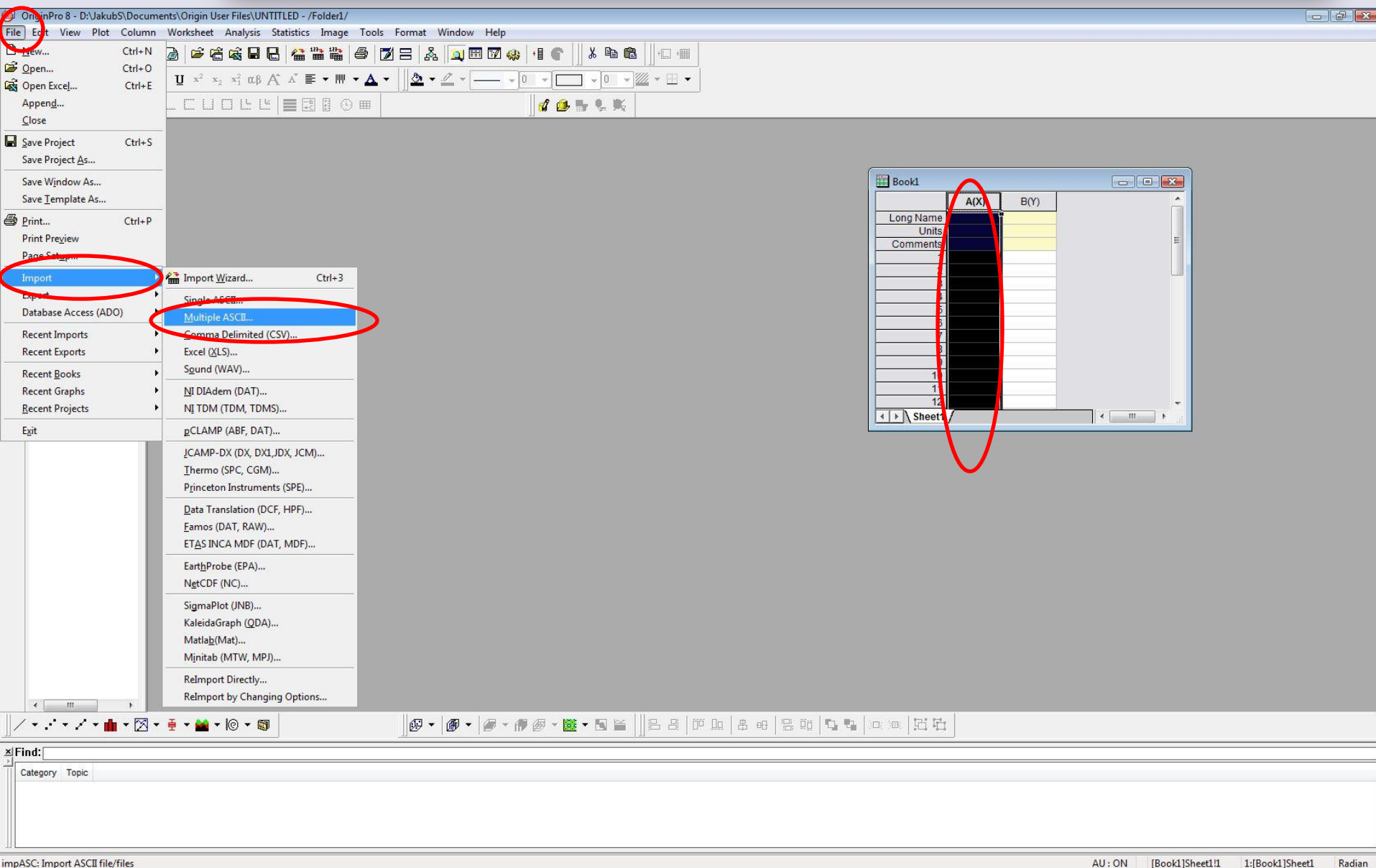
Ilustracja metody PCA dla 10 próbek i 5 zmiennych.



Wykres przedstawiający zależność wag od liczby falowej. Dla zakresu 200-3600cm⁻¹ i mocy 25mW. Stosowane metody analizy PCA: mean center, SNV, 1-st derivative.

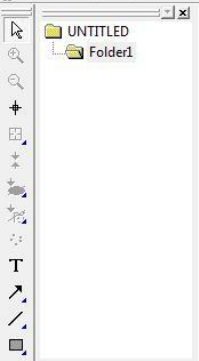


Zależność pomiędzy próbkami (czynniki główne). Dla zakresu 200-3600 cm^{-1} i mocy 25mW. Stosowane metody analizy PCA: mean center, SNV, 1-st derivative.

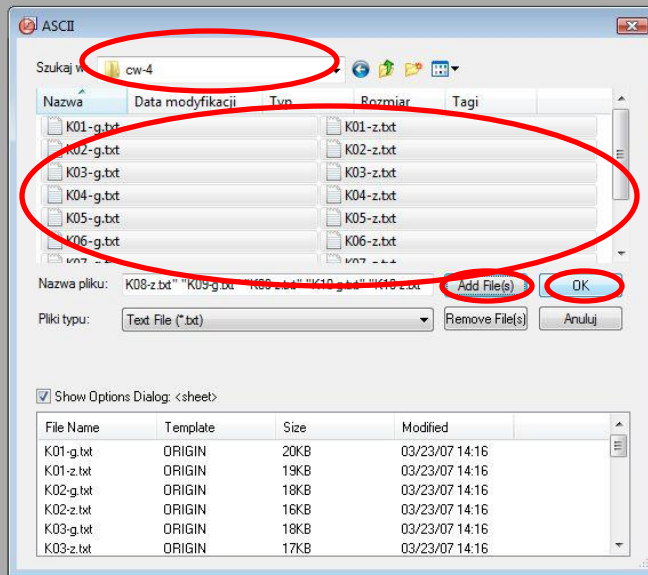


OriginPro 8 - D:\JakubS\Documents\Origin User Files\UNTITLED - /Folder1/

File Edit View Plot Column Worksheet Analysis Statistics Image Tools Format Window Help



Name	T.	M.
Book1	W	2...



	A(X)	B(Y)
Long Name		
Units		
Comments		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

Find:

Category Topic

OriginPro 8 - D:\JakubS\Documents\Origin User Files\UNTITLED - /Folder1/

File Edit View Plot Column Worksheet Analysis Statistics Image Tools Format Window Help

Default: A 9 B I U x² x₂ x₂

UNTITLED
Folder1

Book1

W 2...

Import and Export: impASC

Dialog Theme: <sheet>

Description: Import ASCII file/files

File Name

D:\JakubS\Documents\LMDT-2009\cw-4K01-g.txt
D:\JakubS\Documents\LMDT-2009\cw-4K01-z.txt
D:\JakubS\Documents\LMDT-2009\cw-4K02-g.txt
D:\JakubS\Documents\LMDT-2009\cw-4K02-z.txt
D:\JakubS\Documents\LMDT-2009\cw-4K03-g.txt

File Info

Import Options

Add Sparklines: Yes (if less than 50 columns)

Import Mode: **Start New Columns**

File Structure

Columns

Header Lines

File Name

Auto Rename: ☒

Rename Sheet with (Partial) Filename: ☒

Trim Filename From: 1

Trim Filename To: 0

Rename Book with (Partial) Filename: ☒

Trim Filename From: 1

Trim Filename To: 0

Include File Path when Renaming Book: ☐

Append Filename to Workbook Comment: ☒

Append Filename to Column Comment: ☒

Include File Path when Appending Filename: ☐

Partial Import

Miscellaneous

Output: [Book1]Sheet1!1

Results Log Output: ☐

OK Cancel

Book1

	A(X)	B(Y)
Long Name		
Units		
Comments		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

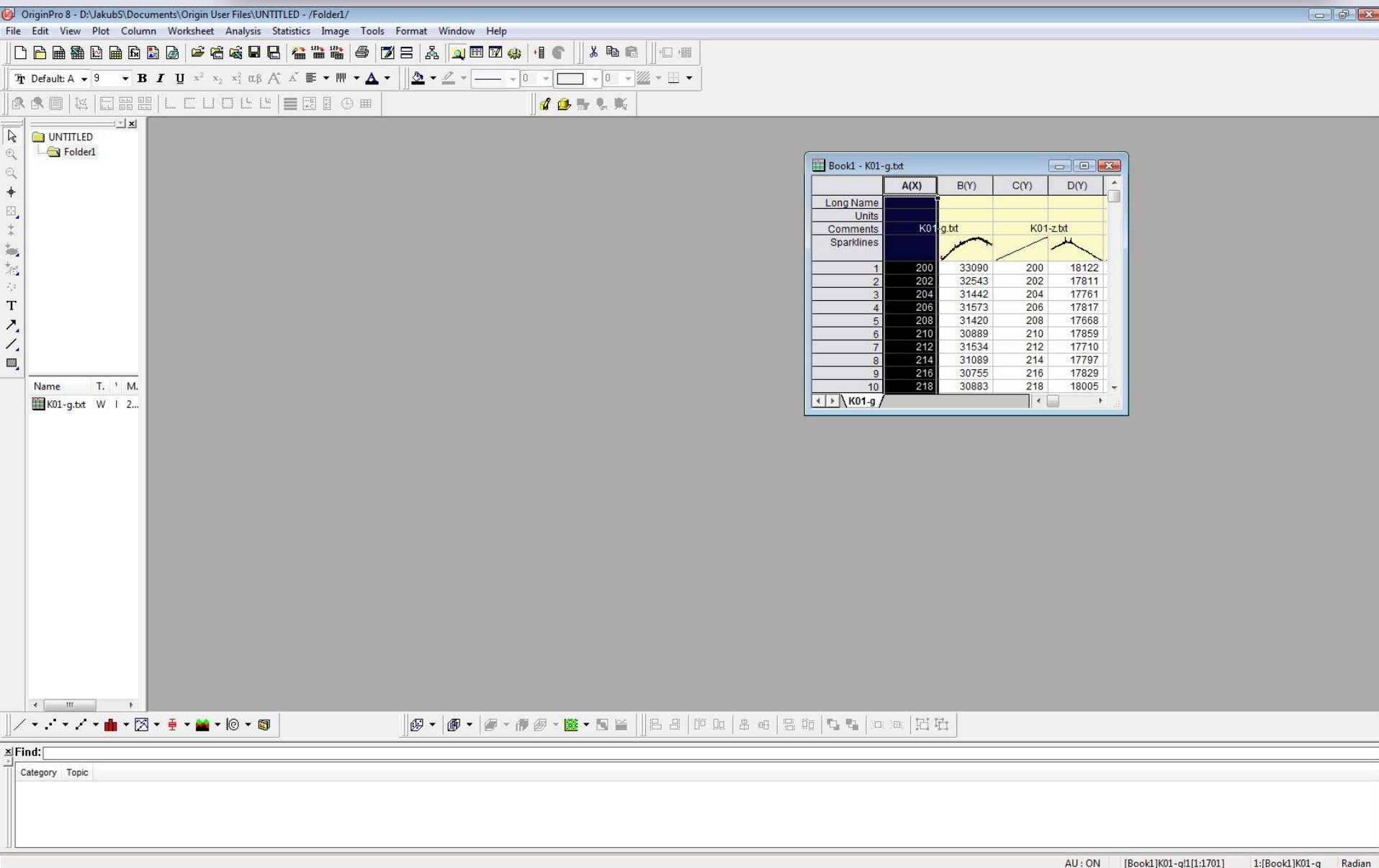
Sheet1

Find:

Category Topic

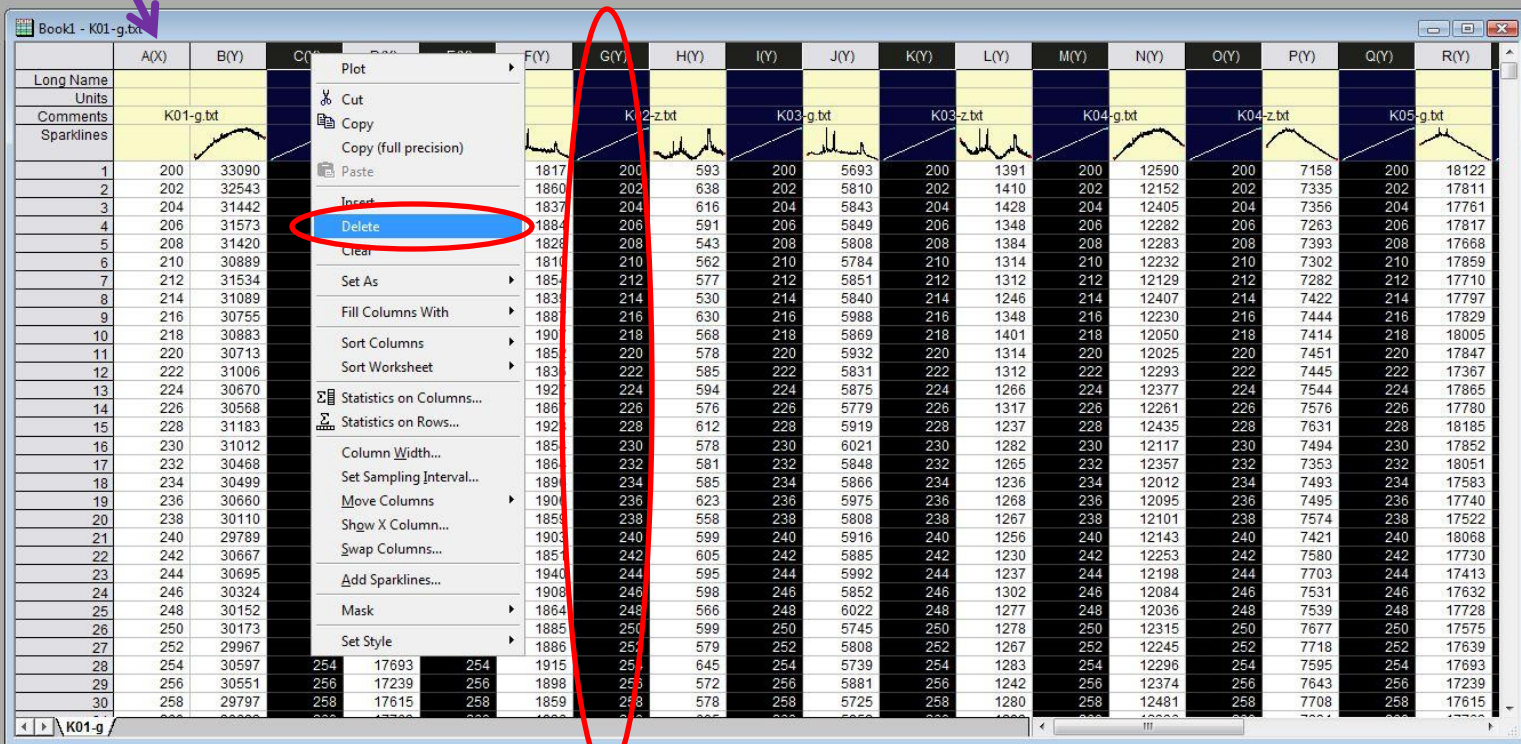
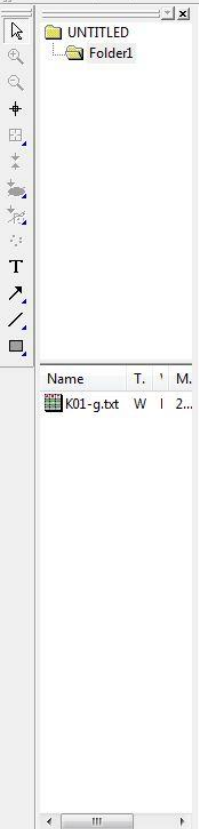
Analyzing file structure..

AU: ON [Book1]Sheet1!1 1:[Book1]Sheet1 Radian



OriginPro 8 - D:\JakubS\Documents\Origin User Files\UNTITLED - /Folder1/

File Edit View Plot Column Worksheet Analysis Statistics Image Tools Format Window Help



Find:

Category Topic

Delete the selected region

AU : ON

[Book1]K01-g[31:39]1701

1:[Book1]K01-g

Radian

The screenshot displays the OriginPro 8 software interface. The main window shows a data book named "Book1 - K01-g.txt". The spreadsheet contains columns labeled A(X), B(Y), D(Y), F(Y), H(Y), J(Y), L(Y), N(Y), P(Y), R(Y), T(Y), V(Y), X(Y), Z(Y), AB(Y), AC(Y), AD(Y), and AE(Y). The rows are numbered 1 through 30. The "Comments" column contains labels such as "K01-g", "K01-z", "K02-g", etc., which are linked to sparkline plots in the adjacent columns. The "K01-g" cell is highlighted with a red circle. The bottom status bar shows "K01-g" and "AU: ON".

OriginPro 8 - D:\JakubS\Documents\Origin User Files\UNTITLED - /Folder1/

File Edit View Plot Column Worksheet Analysis Statistics Image Tools Format Window Help

File: New... Ctrl+N, Open... Ctrl+O, Open Excel... Ctrl+E, Append... Close, Save Project Ctrl+S, Save Project As..., Save Window As..., Save Template As..., Print... Ctrl+P, Print Preview, Page Setup..., Import, Export, Database Access (ADO), Recent Imports, Recent Exports, Recent Books, Recent Graphs, Recent Projects, Exit

Export menu options: ASCII..., TDM (TDM, TDMs)..., PDF..., Sound (WAV)..., As Image File...

Book1 - K01-g.txt

	F(Y)	H(Y)	J(Y)	L(Y)	N(Y)	P(Y)	R(Y)	T(Y)	V(Y)	X(Y)	Z(Y)	AB(Y)	AC(Y)	AD(Y)	AE(Y)	AF(Y)	AG(Y)	AH(Y)
Long Name																		
Units																		
Comments	K02-g	K02-z	K03-g	K03-z	K04-g	K04-z	K05-g	K05-z	K06-g	K06-z	K07-g	K07-z	K08-g	K08-z	K09-g	K09-z	K10-g	K10-z
Sparklines	[Sparkline plots for each column]																	
1	1817	582	5693	1391	12590	7158	18122	11413	33595	6837	10981	2379	27677	4123	48467	3701	44151	4123
2	1860	538	5810	1410	12152	7335	17811	11184	33467	6893	10844	2307	27716	4176	49090	3838	43700	4176
3	1837	616	5843	1428	12405	7356	17761	11308	32982	6780	10922	2278	27808	4162	48750	3831	43259	4162
4	591	5849	1348	12282	7263	17817	11208	32769	6658	10783	2201	27653	4095	49153	3764	43064	4095	
5	543	5808	1384	12283	7393	17668	11077	32178	6675	10833	2307	27605	3983	49272	3737	42865	3983	
6	562	5784	1314	12232	7302	17859	11206	32282	6840	10723	2321	27950	4018	48975	3734	43198	4018	
7	577	5851	1312	12129	7282	17710	11055	31882	6758	10799	2307	28156	3981	48904	3821	43273	3981	
8	530	5840	1246	12407	7422	17797	11262	31726	6818	10583	2380	27710	4123	48634	3808	43182	4123	
9	630	5988	1348	12230	7444	17829	11197	31473	6790	10651	2269	27901	4069	49130	3724	43316	4069	
10	568	5869	1401	12050	7414	18005	11059	31385	6747	10591	2323	28283	4067	48738	3747	42918	4067	
11	1852	578	5932	1314	12025	7451	17847	11039	31381	6498	10617	2325	28282	4062	49407	3671	43083	4062
12	1836	585	5831	1312	12293	7445	17367	11119	31343	6769	10572	2214	28214	4021	48921	3702	42671	4021
13	1927	594	5875	1266	12377	7544	17865	11116	31456	6874	10554	2287	28288	3989	48899	3768	42940	3989
14	1867	576	5779	1317	12261	7576	17780	11072	31226	6654	10670	2279	27871	3948	49473	3727	42661	3948
15	1923	612	5919	1237	12435	7631	18185	11109	32621	6732	10739	2283	28422	3985	49238	3721	42934	3985
16	1854	578	6021	1282	12117	7494	17852	11128	30760	6869	10327	2262	28233	3942	49474	3707	43048	3942
17	1864	581	5848	1265	12357	7353	18051	11176	30281	6801	10440	2275	28542	3929	49144	3658	42617	3929
18	1896	585	5866	1236	12012	7493	17583	11077	30558	6817	10720	2221	28532	3941	49051	3709	42954	3941
19	1906	623	5975	1268	12095	7495	17740	10761	30638	6609	10535	2366	28445	3984	49270	3640	43332	3984
20	1859	558	5808	1267	12101	7574	17522	10954	30472	6928	10534	2210	28546	3939	49548	3817	42946	3939
21	1903	599	5916	1256	12143	7421	18068	10912	30409	6711	10490	2208	28436	4003	49460	3751	43384	4003
22	1851	605	5885	1230	12253	7580	17730	10849	30577	6925	10388	2338	28636	3869	49611	3756	42722	3869
23	1940	595	5992	1237	12198	7703	17413	10898	30601	6760	10620	2236	28899	3948	49256	3735	43016	3948
24	1903	598	5852	1302	12084	7531	17632	10899	30546	6908	10492	2240	29066	3875	49359	3714	43165	3875
25	1864	566	6022	1277	12036	7539	17728	10947	29914	7134	10348	2263	28920	3956	49852	3753	43170	3956
26	1885	599	5745	1278	12315	7677	17575	10743	30052	6726	10426	2282	29233	4004	49226	3696	42921	4004
27	1886	579	5808	1267	12245	7718	17639	11002	30219	6803	10483	2235	28597	3732	49547	3679	43016	3732
28	1915	645	5739	1283	12296	7595	17693	10873	30027	7025	10401	2287	28876	3925	49474	3796	43201	3925
29	1898	572	5881	1242	12374	7643	17239	10940	29874	6921	10653	2321	29159	3876	49495	3772	42983	3876
30	1859	578	5725	1280	12481	7708	17615	10797	29996	6797	10479	2336	28825	3818	49447	3695	43339	3818

Find: Category Topic

expASC: Export worksheet data as ASCII file

AU : ON [Book1]K01-g[21]:21[1701] 1:[Book1]K01-g Radian

The screenshot shows the OriginPro 8.0 interface. In the foreground, a 'Zapisz jako' (Save As) dialog box is open for the file 'K01-g.txt'. The 'Nazwa pliku' (File name) is 'dane1.txt' and the 'Zapisz jako typ' (Save as type) is 'Text File (*.txt)'. A purple arrow points to the 'Zapisz' (Save) button. The background shows a data table with columns labeled T(Y), V(Y), X(Y), Z(Y), AB(Y), AC(Y), AD(Y), AE(Y), AF(Y), AG(Y), AH(Y) and a line graph above it.

The screenshot displays the OriginPro 8.0 software interface. In the center, the 'Import and Export: expASC' dialog box is open, showing the configuration for exporting data from 'Book1[K01-g.txt]' to a text file. The 'File Type' is 'Text File (*.txt)' and the 'File Path' is 'D:\WakubS\Documents\LMDT-2009\cw-4\dane1.txt'. The 'Separator' is set to 'TAB'. The 'Header' section is circled in red, indicating the options for including various data elements in the export file. The background shows a worksheet with columns F(Y), H(Y), J(Y) and a plot of Sparklines.

Import and Export: expASC

Dialog Theme: <sheet>

Description: Export worksheet data as ASCII file

Input Worksheet: [Book1]K01-g

File Type: Text File (*.txt)

File Path: D:\WakubS\Documents\LMDT-2009\cw-4\dane1.txt

Export Selected Data Only: ☒

Separator: TAB

Header

- ☒ Include Short Name
- ☒ Include Long Name
- ☒ Include Units
- ☒ Include Comments
- ☒ Include User Parameter
- ☒ Include Sampling Interval
- ☒ Include Parameters

Options

- ☐ Include Row Labels and Index
- ☒ Export with Full Precision
- ☒ Export Missing Values as "..."

OK Cancel

The screenshot displays the OriginPro 8 interface. The main window shows a data book titled 'Book1 - K01-g.txt'. The data is organized into a table with columns labeled F(Y) through AH(Y) and rows numbered 1 to 30. The 'Long Name' column is highlighted with a red circle. The 'Comments' column is also visible, containing text like 'K02-q', 'K02-z', etc. The 'Sparkline' column shows small line plots for each row. The bottom status bar indicates the current file is 'K01-g.txt'.

	F(Y)	H(Y)	J(Y)	L(Y)	N(Y)	P(Y)	R(Y)	T(Y)	V(Y)	X(Y)	Z(Y)	AB(Y)	AC(Y)	AD(Y)	AE(Y)	AF(Y)	AG(Y)	AH(Y)
Long Name																		
Comments	K02-q	K02-z	K03-q	K03-z	K04-q	K04-z	K05-q	K05-z	K06-q	K06-z	K07-q	K07-z	K08-q	K08-z	K09-q	K09-z	K10-q	K10-z
Sparkline																		
1	1817	593	5693	1391	12590	7158	18122	11413	33595	6837	10981	2379	27677	4123	48467	3701	44151	4123
2	1860	638	5810	1410	12152	7335	17811	11184	33467	6893	10844	2307	27716	4176	49090	3838	43700	4176
3	1837	616	5843	1428	12405	7356	17761	11308	32982	6780	10922	2278	27808	4162	48750	3831	43259	4162
4	1884	591	5849	1348	12282	7263	17817	11208	32769	6658	10783	2201	27653	4095	49153	3764	43064	4095
5	1828	543	5808	1384	12283	7393	17668	11077	32178	6675	10833	2307	27605	3983	49272	3737	42865	3983
6	1810	562	5784	1314	12232	7302	17859	11206	32282	6840	10723	2321	27950	4018	48975	3734	43198	4018
7	1854	577	5851	1312	12129	7282	17710	11055	31882	6758	10799	2307	28156	3981	48904	3821	43273	3981
8	1839	530	5840	1246	12407	7422	17797	11262	31726	6818	10583	2380	27710	4123	48634	3808	43182	4123
9	1887	630	5988	1348	12230	7444	17829	11197	31473	6790	10651	2269	27901	4069	49130	3724	43316	4069
10	1907	568	5869	1401	12050	7414	18005	11059	31385	6747	10591	2323	28283	4067	48738	3747	42918	4067
11	1852	578	5932	1314	12025	7451	17847	11039	31381	6498	10617	2325	28282	4062	49407	3671	43083	4062
12	1836	585	5831	1312	12293	7445	17367	11119	31343	6769	10572	2214	28214	4021	48921	3702	42671	4021
13	1927	594	5875	1266	12377	7544	17865	11116	31456	6874	10554	2287	28288	3989	48899	3768	42940	3989
14	1867	576	5779	1317	12261	7576	17780	11072	31226	6654	10670	2279	27871	3946	49473	3727	42661	3946
15	1923	612	5919	1237	12435	7631	18185	11109	32621	6732	10739	2283	28422	3985	49238	3721	42934	3985
16	1854	578	6021	1282	12117	7494	17852	11128	30760	6969	10327	2262	28233	3942	49474	3707	43048	3942
17	1864	581	5848	1265	12357	7353	18051	11176	30281	6801	1044							

Zeszyt1 - Microsoft Excel

Narzędzia główne Wstawianie Układ strony Formuły Dane Recenzja Widok

Wklej Wstaw Schowek Wyrównanie Czcionka Liczba Formatowanie warunkowe Formatuj jako tabelę Style Komórki Edycja

A1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
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Arkusz1 Arkusz2 Arkusz3

Gotowy 100%

Microsoft Excel - Zeszyt1

Narzędzia główne | Wstawianie | Układ strony | Formuły | Dane | Recenzja | Widok

Wklej | Wytnij | Kopiuj | Malarz formatów | Schowek

Czcionka tekstowa: 11 | Czcionka: B | Wyrównanie: Scał i wyśrodkuj | Ogólne: % | 000 | Liczba: Formatowanie warunkowe | Formatuj jako tabelę | Style: Normalny | Dobry | Neutralne | Zły | Dane wejściowe | Dane wyjściowe

Komórki: Wstaw | Usuń | Format | Edycja: Wypełnienie | Wyczyść | Autosumowanie | Sortuj i filtruj | Znajdź i zaznacz

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
	K01-q	K01-z	K02-q	K02-z	K03-q	K03-z	K04-q	K04-z	K05-q	K05-z	K06-q	K06-z	K07-q	K07-z	K08-q	K08-z	K09-q	K09-z	K10-q	K10-z			
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Arkusz1 | Arkusz2 | Arkusz3

Gotowy | Licznik: 20 | 100%

Ctrl+V

Zeszyt1 - Microsoft Excel

Narzędzia główne Wstawianie Układ strony **Formuły** Dane Recenzja Widok

Wstaw funkcję Autosumowanie Niedawno używane Biblioteka funkcji

Definiuj nazwę Użyj w formule Menedżer nazw Nazwy zdefiniowane

Śledź poprzedniki Śledź zależności Usuń strzałki Inspekcja formuł

Pokaż formuły Sprawdzanie błędów Szacuj formułę

Okno czujki

Oblicz teraz Opcje obliczania Oblicz arkusz

Obliczanie

A1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43

A B C D E F G H I J K L M N O P Q R S T U V W

ADRESY
ADRES
HIPERŁĄCZE
ILE.WIERSZY
INDEKS
LICZBA.KOLUMN
NR.KOLUMNY
OBSZARY
PODAJ.POZYCIĘ
PRZESUNIĘCIE
RTD
TRANSPONUJ
WŁADZANIE.TABELI
WIERSZ
WYBIERZ
WYSZUKAJ
WYSZUKAJ.PIKOWO
WYSZUKAJ.POZIOMO
Wstaw funkcję...

Arkusz1 **Arkusz2** Arkusz3

Gotowy

100%

Microsoft Excel - Zeszyt1

Formuły

Wstaw funkcję, Autosumowanie, Niedawno używane, Finansowe, Logiczne, Tekstowe, Data i godzina, Wyszuk. i Matem., Więcej funkcji, Menedżer nazw, Nazwy zdefiniowane, Śledź poprzedniki, Użyj w formule, Śledź zależności, Sprawdź błędy, Usun strzałki, Szacuj formułę, Okno czujki, Oblicz teraz, Opcje obliczania, Oblicz arkusz.

Argumenty funkcji

TRANSPONUJ

Tablica = dowolne

Konwertuje pionowy zakres komórek do zakresu poziomego lub na odwrot.

Tablica - zakres komórek w arkuszu lub tablica wartości, która ma być transponowana.

Wynik formuły =

[Pomoc dotycząca tej funkcji](#)

OK Anuluj

Arkusz1 **Arkusz2** Arkusz3

Edycja 100%

Zeszyt1 - Microsoft Excel

Narzędzia główne Wstawianie Układ strony Formuły Dane Recenzja Widok

Wstaw funkcję Autosumowanie Niedawno używane Finansowe Logiczne Tekstowe Data i godziny Wyszuk. i Matem. Więcej funkcji

Biblioteka funkcji

Definiuj nazwę Użyj w formule Menedżer nazw Utwórz z zaznaczenia Nazwy zdefiniowane

Śledź poprzedniki Śledź zależności Usun strzałki Inspekcja formuł

Pokaż formuły Sprawdzanie błędów Szacuj formułę

Okno czujki

Oblicz teraz Opcje obliczania Oblicz arkusz

Obliczanie

TRANSPONUJ =TRANSPONUJ()

K01-g K01-z K02-g K02-z K03-g K03-z K04-g K04-z K05-g K05-z K06-g K06-z K07-g K07-z K08-g K08-z K09-g K09-z K10-g K10-z

Zaznaczyć cały wiersz

Argumenty funkcji

TRANSPONUJ

Tablica Arkusz1!1:1 = dowolne

Konwertuje pionowy zakres komórek do zakresu poziomego lub na odwrot.

Tablica - zakres komórek w arkuszu lub tablica wartości, która ma być transponowana.

Wynik formuły =

[Pomoc dotycząca tej funkcji](#)

OK Anuluj

Arkusz1 Arkusz2 Arkusz3

Zeszyt1 - Microsoft Excel

Narzędzia główne Wstawianie Układ strony **Formuły** Dane Recenzja Widok

Wstaw funkcję Autosomowanie Niedawno używane Biblioteka funkcji Logiczne Tekstowe Data i godzina Wyszuk. i Matem. Więcej funkcji

Definiuj nazwę Użyj w formule Menedżer nazw Nazwy zdefiniowane

Śledź poprzedniki Śledź zależności Usuń strzałki

Pokaż formuły Sprawdzanie błędów Szacuj formułę Inspekcja formuł

Okno czujki

Oblicz teraz Opcje obliczania Oblicz arkusz Obliczanie

A1 =TRANSPONUJ(Arkusz111:1)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	0																						
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
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41																							
42																							
43																							

Arkusz1 Arkusz2 Arkusz3

Gotowy 100%

Zeszyt1 - Microsoft Excel

Narzędzia główne Wstawianie Układ strony Formuły Dane Recenzja Widok

Wstaw funkcję Autosumowanie Niedawno używane Biblioteka funkcji

Definiuj nazwę Użyj w formule Menedżer nazw Nazwy zdefiniowane

Śledź poprzedniki Śledź zależności Usuń strzałki Inspekcja formuł

Pokaż formuły Sprawdzanie błędów Szacuj formułę

Okno czujki Opcje obliczania Oblicz teraz Oblicz arkusz Obliczanie

TRANSPONUJ =TRANSPONUJ(Arkusz1!1:1)

A B C D E F G H I J K L M N O P Q R S T U V W

1 TRANSPONUJ(Arkusz1!1:1)

2

3

4

5

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Arkusz1 Arkusz2 Arkusz3

Edycja 100%

- zaznaczyć całą kolumnę
- F2
- Ctrl+Shift+Enter

Zeszyt1 - Microsoft Excel

Narzędzia główne Wstawianie Układ strony **Formuły** Dane Recenzja Widok

Wstaw funkcję Autosumowanie Niedawno używane Biblioteka funkcji Logiczne Tekstowe Data i godzina Wyszuk. i Matem. Więcej funkcji

Definiuj nazwę Użyj w formule Menedżer nazw Utwórz z zaznaczenia Nazwy zdefiniowane

Śledź poprzedniki Pokaż formuły Śledź zależności Sprawdzanie błędów Usun strzałki Szacuj formułę Inspekcja formuł

Okno czujki Opcje obliczania Oblicz teraz Oblicz arkusz Obliczanie

A1 {=TRANSPONUJ(Arkusz111:1)}

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	0																						
2	K01-g																						
3	K01-z																						
4	K02-g																						
5	K02-z																						
6	K03-g																						
7	K03-z																						
8	K04-g																						
9	K04-z																						
10	K05-g																						
11	K05-z																						
12	K06-g																						
13	K06-z																						
14	K07-g																						
15	K07-z																						
16	K08-g																						
17	K08-z																						
18	K09-g																						
19	K09-z																						
20	K10-g																						
21	K10-z																						
22	0																						
23	0																						
24	0																						
25	0																						
26	0																						
27	0																						
28	0																						
29	0																						
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34	0																						
35	0																						
36	0																						
37	0																						
38	0																						
39	0																						
40	0																						
41	0																						
42	0																						
43	0																						

Arkusz1 Arkusz2 Arkusz3

Gotowy Licznik: 1048576 100%

Zeszyt1 - Microsoft Excel

Narzędzia główne Wstawianie Układ strony Formuły Dane Recenzja Widok

Wstaw funkcję Autosumowanie Niedawno używane Biblioteka funkcji

Definiuj nazwę Użyj w formule Menedżer nazw Nazwy zdefiniowane

Śledź poprzedniki Śledź zależności Usuń strzałki

Pokaż formuły Sprawdzanie błędów Szacuj formułę Inspekcja formuł

Okno czujki

Oblicz teraz Opcje obliczania Oblicz arkusz Obliczanie

A2 {=TRANSPONUJ(Arkusz11:1)}

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	0																						
2	K01-g																						
3	K01-z																						
4	K02-g																						
5	K02-z																						
6	K03-g																						
7	K03-z																						
8	K04-g																						
9	K04-z																						
10	K05-g																						
11	K05-z																						
12	K06-g																						
13	K06-z																						
14	K07-g																						
15	K07-z																						
16	K08-g																						
17	K08-z																						
18	K09-g																						
19	K09-z																						
20	K10-g																						
21	K10-z																						
22	0																						
23	0																						
24	0																						
25	0																						
26	0																						
27	0																						
28	0																						
29	0																						
30	0																						
31	0																						
32	0																						
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34	0																						
35	0																						
36	0																						
37	0																						
38	0																						
39	0																						
40	0																						
41	0																						
42	0																						
43	0																						

Arkusz1 Arkusz2 Arkusz3

Zaznacz obszar docelowy i naciśnij ENTER lub wybierz Wklej

Licznik: 20 100%

The screenshot shows the Microsoft Excel 2010 interface. The 'Zapisz jako' (Save As) dialog box is open, displaying the file name 'labes.txt' and the save type 'Dokumenty tekstowe (*.txt)'. The encoding is set to 'ANSI'. The background spreadsheet shows a list of data in column A, with rows 1 to 21 containing labels like 'K01-g', 'K01-z', etc. The formula bar at the top shows '=TRANSPONUJ(Arkusz11!1:1)'.

MATLAB 7.4.0 (R2007a)

File Edit View Graphics Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Import data

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.
Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive.
This server does not appear to support UNIX-style directory timestamp updates.
Network latency may be causing delayed arrival of change notifications.
Type 'help changeNotification' for more info.
>>

Command History

- *-- 01.07.07 13:54 --*
- *-- 24.01.08 13:56 --*
 - pca
- *-- 24.01.08 14:00 --*
 - pca
- *-- 24.11.06 14:01 --*
- *-- 26.02.09 14:05 --*
 - pca
- *-- 26.02.09 14:19 --*
 - pca
- *-- 26.02.09 14:21 --*
 - pca
- *-- 26.02.09 14:23 --*
 - pca
- *-- 26.02.09 14:51 --*
 - PCA
- *-- 10.03.09 15:51 --*

The screenshot shows the MATLAB 7.4.0 (R2007a) interface. The top menu bar includes File, Edit, View, Graphics, Debug, Desktop, Window, and Help. The Command Window on the right displays the following text:

```
To get started, select MATLAB Help or Demos from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.
Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive.
This server does not appear to support UNIX-style directory timestamp updates.
Network latency may be causing delayed arrival of change notifications.
Type 'help changeNotification' for more info.
>>
```

The Current Directory pane on the left shows the workspace. The Command History pane at the bottom left shows a list of commands executed, including 'pca' and 'PCA'. An 'Import Data' dialog box is open, showing a list of files in the 'cw-4' directory. The files listed are:

Nazwa	Data modyfikacji	Typ	Rozmiar	Tagi
dane1.txt				
K01-g.txt				
K01-z.txt				
K02-g.txt				
K02-z.txt				
K03-g.txt				
K03-z.txt				
K04-g.txt				
K04-z.txt				
K05-g.txt				
K05-z.txt				
K06-g.txt				
K06-z.txt				
K07-g.txt				
K07-z.txt				
K08-g.txt				
K08-z.txt				
K09-g.txt				
K09-z.txt				
K10-g.txt				
K10-z.txt				
lables.txt				
lables.xls				

The 'Import Data' dialog box has the following fields:

- Szukaj w: cw-4
- Nazwa pliku: dane1.txt
- Pliki typu: Recognized Data Files
- Otwórz
- Anuluj

A red arrow points to the 'Pliki typu:' field, which is set to 'Recognized Data Files'.

MATLAB 7.4.0 (R2007a)

File Edit View Graphics Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name Value Min Max

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.
Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive.
This server does not appear to support UNIX-style directory timestamp updates.
ing delayed arrival of change notifications.
on' for more info.
at 69
rd on a file while the Import Wizard is open.

Import Wizard

Select Column Separator(s)

☐ Comma ☐ Space ☐ Semicolon ☒ Tab ☐ Other

Number of text header lines: 0

Preview of D:\JakubS\Documents\LM-DT-2009\cw-4\dane1.txt

	1	2	3	4
1	33090	18122	1817	
2	32543	17811	1860	
3	31442	17761	1837	
4	31573	17817	1884	
5	31420	17668	1828	
6	30889	17859	1810	
7	31534	17710	1854	
8	31089	17797	1839	
9	30755	17829	1887	
10	30883	18005	1907	
11	30713	17847	1852	
12	31006	17367	1836	

Help < Back **Next >** Finish ☐ Generate M-code Cancel

Command History

```

> 01.07.07 13:54 --%
> 24.01.08 13:56 --%
> 24.01.08 14:00 --%
> 24.11.06 14:01 --%
> 26.02.09 14:05 --%
> 26.02.09 14:19 --%
> 26.02.09 14:21 --%
> 26.02.09 14:23 --%
> 26.02.09 14:51 --%
> 10.03.09 15:51 --%
  
```

Start

MATLAB 7.4.0 (R2007a)

File Edit View Graphics Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name Value Min Max

Command Window

To get started, select **MATLAB Help** or **Demos** from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.
 Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive.
 This server does not appear to support UNIX-style directory timestamp updates.
 ...ing delayed arrival of change notifications.
 ...on' for more info.
 ... at 69
 ...d on a file while the Import Wizard is open.

Import Wizard

Select variables to import using checkboxes:

- ☒ Create variables matching preview.
- ☐ Create vectors from each column using column names.
- ☐ Create vectors from each row using row names.

Variables in D:\JakubS\Documents\LMDT-2009\cw-4\dane1.txt

Import	Name	Size	Bytes	Class
☒	dane1	1701x20	272160	doubl

No variable selected for preview.

Help < Back Next > **Finish** ☐ Generate M-code Cancel

Command History

```

-- 01.07.07 13:54 -- %
-- 24.01.08 13:56 -- %
pca
-- 24.01.08 14:00 -- %
pca
-- 24.11.06 14:01 -- %
-- 26.02.09 14:05 -- %
pca
-- 26.02.09 14:19 -- %
pca
-- 26.02.09 14:21 -- %
pca
-- 26.02.09 14:23 -- %
pca
-- 26.02.09 14:51 -- %
PCA
-- 10.03.09 15:51 -- %
  
```

Start

MATLAB 7.4.0 (R2007a)

File Edit View Graphics Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
dane	1701.000 1.000 1.000	386	63622

Open Selection
Save As...
Copy Ctrl+C
Duplicate Ctrl+D
Delete Delete
Rename
Edit value
Plot all columns
bar(dane1)
imagesc(dane1)
contour(dane1)
surf(dane1)
mesh(dane1)
More Plots...

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.
Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive.
This server does not appear to support UNIX-style directory timestamp updates.
Network latency may be causing delayed arrival of change notifications.
Type 'help changeNotification' for more info.
??? Error using ==> uiimport at 69
Cannot open the Import Wizard on a file while the Import Wizard is open.

>>

Command History

```
%-- 01.07.07 13:54 --%  
%-- 24.01.08 13:56 --%  
pca  
%-- 24.01.08 14:00 --%  
pca  
%-- 24.11.06 14:01 --%  
%-- 26.02.09 14:05 --%  
pca  
%-- 26.02.09 14:19 --%  
pca  
%-- 26.02.09 14:21 --%  
pca  
%-- 26.02.09 14:23 --%  
pca  
%-- 26.02.09 14:51 --%  
PCA  
%-- 10.03.09 15:51 --%
```

Start Import Wizard created variables in the current workspace.

MATLAB 7.4.0 (R2007a)

File Edit View Graphics Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
Y	<1701x20 double>	386	63622

Stack: Base

Import Data

Szukaj w: cw-4

Nazwa	Data modyfikacji	Typ	Rozmiar
K05-z.txt			
K06-g.txt			
K06-z.txt			
K07-g.txt			
K07-z.txt			
K08-g.txt			
K08-z.txt			
K09-g.txt			
K09-z.txt			
K10-g.txt			
K10-z.txt			
lables.txt			
lables.xls			

Nazwa pliku: lables.txt

Pliki typu: Recognized Data Files

Otwórz Anuluj

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.

Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive. This server does not appear to support UNIX-style directory timestamp updates. Network latency may be causing delayed arrival of change notifications.

help changeNotification' for more info.

for using ==> uiimport at 69

open the Import Wizard on a file while the Import Wizard is open.

Command History

```
%-- 01.07.07 13:54  
%-- 24.01.08 13:56  
pca  
%-- 24.01.08 14:00 --%  
pca  
%-- 24.11.06 14:01 --%  
%-- 26.02.09 14:05 --%  
pca  
%-- 26.02.09 14:19 --%  
pca  
%-- 26.02.09 14:21 --%  
pca  
%-- 26.02.09 14:23 --%  
pca  
%-- 26.02.09 14:51 --%  
PCA  
%-- 10.03.09 15:51 --%
```

Start

MATLAB 7.4.0 (R2007a)

File Edit View Graphics Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
Y	<1701x20 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.
Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive.
This server does not appear to support UNIX-style directory timestamp updates.
ing delayed arrival of change notifications.
on' for more info.
at 69
d on a file while the Import Wizard is open.
at 69
d on a file while the Import Wizard is open.
at 69
d on a file while the Import Wizard is open.

Import Wizard

Select Column Separator(s)

☐ Comma ☐ Space ☐ Semicolon ☒ Tab ☐ Other

Number of text header lines: 20

Preview of D:\JakubS\Documents\LMMDT-2009\4\tables.txt

	tables
K01-g	K01-g
K01-z	K01-z
K02-g	K02-g
K02-z	K02-z
K03-g	K03-g
K03-z	K03-z
K04-g	K04-g
K04-z	K04-z
K05-g	K05-g
K05-z	K05-z
K06-g	K06-g
K06-z	K06-z
K07-g	K07-g
K07-z	K07-z
K08-g	K08-g
K08-z	K08-z
K09-g	K09-g
K09-z	K09-z
K10-g	K10-g
K10-z	K10-z

Command History

```
%-- 01.07.07 13:54 --%  
%-- 24.01.08 13:56 --%  
pca  
%-- 24.01.08 14:00 --%  
pca  
%-- 24.11.06 14:01 --%  
%-- 26.02.09 14:05 --%  
pca  
%-- 26.02.09 14:19 --%  
pca  
%-- 26.02.09 14:21 --%  
pca  
%-- 26.02.09 14:23 --%  
pca  
%-- 26.02.09 14:51 --%  
PCA  
%-- 10.03.09 15:51 --%
```

Help < Back **Next >** Finish ☐ Generate M-code Cancel

MATLAB 7.4.0 (R2007a)

File Edit View Graphics Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
Y	<1701x20 double>	386	63622

Stack: Base

Command Window

To get started, select **MATLAB Help** or **Demos** from the Help menu.

Warning: Duplicate directory name: D:\JakubS\Documents\MATLAB.
 Warning: Change notification handle for remote C:\Program Files\MATLAB\R2007a\work is not responsive.
 This server does not appear to support UNIX-style directory timestamp updates.
 ...ing delayed arrival of change notifications.
 ...on' for more info.
 ... at 69
 ...d on a file while the Import Wizard is open.
 ... at 69
 ...d on a file while the Import Wizard is open.
 ... at 69
 ...d on a file while the Import Wizard is open.

Import Wizard

Select variables to import using checkboxes:

- ☒ Create variables matching preview.
- ☐ Create vectors from each column using column names.
- ☐ Create vectors from each row using row names.

Variables in D:\JakubS\Documents\LMDT-2009\cw-4\lables.txt

Import	Name	Size	Bytes	Class
☒	lables	20x1	1400	cell

No variable selected for preview.

Help < Back Next > **Finish** Generate M-code Cancel

Command History

```

01.07.07 13:54 --%
24.01.08 13:56 --%
pca
24.01.08 14:00 --%
pca
24.11.06 14:01 --%
26.02.09 14:05 --%
pca
26.02.09 14:19 --%
pca
26.02.09 14:21 --%
pca
26.02.09 14:23 --%
pca
26.02.09 14:51 --%
PCA
10.03.09 15:51 --%
  
```

Start

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
labels	<20x1 cell>		
y	<1701x20 double>	386	63622

Stack: Base

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

```
>> x=[200:2:3600]
```

x=[200:2:3600]

Command History

10.03.09 15:51 -->

Start OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622

Command History

```
10.03.09 15:51 --%  
x=[200:2:3600]
```

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1591 through 1600

3380	3382	3384	3386	3388	3390	3392	3394	3396	3398
------	------	------	------	------	------	------	------	------	------

Columns 1601 through 1610

3400	3402	3404	3406	3408	3410	3412	3414	3416	3418
------	------	------	------	------	------	------	------	------	------

Columns 1611 through 1620

3420	3422	3424	3426	3428	3430	3432	3434	3436	3438
------	------	------	------	------	------	------	------	------	------

Columns 1621 through 1630

3440	3442	3444	3446	3448	3450	3452	3454	3456	3458
------	------	------	------	------	------	------	------	------	------

Columns 1631 through 1640

3460	3462	3464	3466	3468	3470	3472	3474	3476	3478
------	------	------	------	------	------	------	------	------	------

Columns 1641 through 1650

3480	3482	3484	3486	3488	3490	3492	3494	3496	3498
------	------	------	------	------	------	------	------	------	------

Columns 1651 through 1660

3500	3502	3504	3506	3508	3510	3512	3514	3516	3518
------	------	------	------	------	------	------	------	------	------

Columns 1661 through 1670

3520	3522	3524	3526	3528	3530	3532	3534	3536	3538
------	------	------	------	------	------	------	------	------	------

Columns 1671 through 1680

3540	3542	3544	3546	3548	3550	3552	3554	3556	3558
------	------	------	------	------	------	------	------	------	------

Columns 1681 through 1690

3560	3562	3564	3566	3568	3570	3572	3574	3576	3578
------	------	------	------	------	------	------	------	------	------

Columns 1691 through 1700

3580	3582	3584	3586	3588	3590	3592	3594	3596	3598
------	------	------	------	------	------	------	------	------	------

Column 1701

3600

>> y2=y'

y2=y'

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command History

```

> 10.03.09 15:51 --%
> x=[200:2:3600]
> y2=y'
  
```

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
559	588	562	575	606	559	555	606	565	592
4447	4434	4578	4455	4437	4462	4467	4410	4355	4395
614	737	664	667	723	682	648	677	674	674
16003	15689	15973	15761	16014	15864	15867	15584	15933	15938
3383	3544	3564	3393	3359	3471	3367	3421	3476	3400
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
5570	5572	5513	5589	5551	5566	5635	5543	5519	5631
26303	26278	26112	26057	26108	26132	25946	26127	25878	25706
6591	6775	6916	6847	6408	6726	6715	6614	6794	6525
9488	9507	9405	9399	9453	9480	9351	9418	9407	9287
1938	1989	1956	2011	1974	1943	2043	2049	1998	2061
16704	16843	16591	16589	16769	16667	16692	16662	16412	16723
4070	4122	4012	3979	4058	3979	4014	3912	3972	3968
29494	29293	29453	29438	29214	28857	28994	28906	28701	28949
4524	4448	4504	4309	4376	4598	4463	4335	4255	4380
20757	20644	20594	20474	20594	20406	20311	20455	20623	20202
4070	4122	4012	3979	4058	3979	4014	3912	3972	3968

Column 1701

44624
7983
1424
585
4278
687
15925
3463
7983
5442
26202
6578
9256
2000
16384
3929
28762
4520
30299
3929

>> PCA

pca

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

```
>> pca
>>
```

Command History

```
10.03.09 15:51 --%
pca
```

Analysis - PCA (No Model)

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Load Data X-Block

Import Data Y-Block

New Data Both

Load Model

Import Model

Load Options

Save Data

Save Model

Export Model

Save Prediction

Save Options

Clear

Close

Model: none loaded

ance Captured by PCA Model

value	% Variance	% Variance
(X)	This	Cumulative

Analysis Help Window: Neither data nor a model is currently loaded. Data can be loaded or imported and/or a model can be loaded using the File menu.

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\Jakub\S\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

```
>> pca
>>
```

Command History

```
10.03.09 15:51 --%
pca
```

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

X-block Data

Plot X-block

Y-block Data

Plot Y-block

Select Y-Columns

Options

Model: not calculated

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This	% Variance PC Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	588	563	525	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
26132	25946	26127	25878	25706	6726	6715	6614	6794	6525
9480	9351	9418	9407	9287	1943	2043	2049	1998	2061
16667	16692	16662	16412	16723	3979	4014	3912	3972	3968
28857	28994	28906	28701	28949	4598	4463	4335	4255	4380
20406	20311	20455	20623	20202	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue	% Variance of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

y2 - DataSet Editor

File Edit View FigBrowser

Info Data Row Labels Column Labels

Title:

Label

Copy

Paste

Edit Label

Class/Reset

Load Label

Extract Label

Bulk Include Change

Row	Label	Class	Incl.
Row 1			
Row 2			
Row 3			
Row 4			
Row 5			
Row 6			
Row 7			
Row 8			
Row 9			
Row 10			
Row 11			
Row 12			
Row 13			

3463

7983

5442

26202

6578

9256

2000

16384

3929

28762

4520

20299

3929

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	588	563	525	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
26132	25946	26127	25878	25706	6726	6715	6614	6794	6525
9480	9351	9418	9407	9287	1943	2043	2049	1998	2061
16667	16692	16662	16412	16723	3979	4014	3912	3972	3968
28857	28994	28906	28701	28949	4598	4463	4335	4255	4380
20406	20311	20455	20623	20202	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Command History

10.03.09 15:51

x=[200:2:3600]

y2=y'

PCA

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

Row 10

Row 11

Row 12

Row 13

3463

7983

5442

26202

6578

9256

2000

16384

3929

28762

4520

20299

3929

>> PCA

>>

Load

Look In: >> Base Workspace <<

Variables

labels 20x1 (cell)

Variable: labels

From File Load Cancel

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	558	563	525	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
26132	25946	26127	25878	25706	6726	6715	6614	6794	6525
9480	9351	9418	9407	9287	1943	2043	2049	1998	2061
16667	16692	16662	16412	16723	3979	4014	3912	3972	3968
28857	28994	28906	28701	28949	4598	4463	4335	4255	4380
20406	20311	20455	20623	20202	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

y2 - DataSet Editor

File Edit View FigBrowser

Info Data Row Labels Column Labels

Title:

	Label	Axis Scale	Class	Incl.
Set 1: (no name)		Set 1 (empty)	Set 1 (empty)	
Row 1	K01-g			☒
Row 2	K01-z			☒
Row 3	K02-g			☒
Row 4	K02-z			☒
Row 5	K03-g			☒
Row 6	K03-z			☒
Row 7	K04-g			☒
Row 8	K04-z			☒
Row 9	K05-g			☒
Row 10	K05-z			☒
Row 11	K06-g			☒
Row 12	K06-z			☒
Row 13	K07-g			☒

Command History

10.03.09 15:51

```
x=[200:2:3600]
y2=y'
PCA
```

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	558	563	575	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
26132	25946	26127	25878	25706	6726	6715	6614	6794	6525
9480	9351	9418	9407	9287	1943	2043	2049	1998	2061
16667	16692	16662	16412	16723	3979	4014	3912	3972	3968
28857	28994	28906	28701	28949	4598	4463	4335	4255	4380
20406	20311	20455	20623	20202	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

y2 - DataSet Editor

File Edit View FigBrowser

Info Data Row Labels Column Labels

Title:

Label	Axis Scale	Class	Incl.
Set 1: (no name)	Set 1 (empty)	Set 1: (no n...	
Row 1	X01-g	0	☒
Row 2	X01-z	0	☒
Row 3	X02-g	0	☒
Row 4	X02-z	0	☒
Row 5	X03-g	0	☒
Row 6	X03-z	0	☒
Row 7	X04-g	0	☒
Row 8	X04-z	0	☒
Row 9	X05-g	0	☒
Row 10	X05-z	0	☒
Row 11	X06-g	0	☒
Row 12	X06-z	0	☒
Row 13	X07-g	0	☒

Command History

10.03.09 15:51

```
x=[200:2:3600]
y2=y'
PCA
```

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	588	563	525	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
26132	25946	26127	25878	25706	6726	6715	6614	6794	6525
9480	9351	9418	9407	9287	1943	2043	2049	1998	2061
16667	16692	16662	16412	16723	3979	4014	3912	3972	3968
28857	28994	28906	28701	28949	4598	4463	4335	4255	4380
20406	20311	20455	20623	20202	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

y2 - DataSet Editor

File Edit View FigBrowser

Info Data Row Labels Column Labels

Title:

Label	Axis Scale	Class	Incl.
Set 1: (no name)	Set 1 (empty)	Set 1: (no n...	
Names:			
Row 8	K04-z	0	☒
Row 9	K05-g	1	☒
Row 10	K05-z	0	☒
Row 11	K06-g	1	☒
Row 12	K06-z	0	☒
Row 13	K07-g	1	☒
Row 14	K07-z	0	☒
Row 15	K08-g	1	☒
Row 16	K08-z	0	☒
Row 17	K09-g	1	☒
Row 18	K09-z	0	☒
Row 19	K10-g	1	☒
Row 20	K10-z	0	☒

3463

7983

5402

26202

6578

9256

2000

16384

3929

28762

4520

20299

3929

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	558	563	575	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
26132	25946	26127	25878	25706	6726	6715	6614	6794	6525
9480	9351	9418	9407	9287	1943	2043	2049	1998	2061
16667	16692	16662	16412	16723	3979	4014	3912	3972	3968
28857	28994	28906	28701	28949	4598	4463	4335	4255	4380
20406	20311	20455	20623	20202	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

y2 - DataSet Editor

File Edit View FigBrowser

Info Data Row Labels Column Labels

Title:

Label	Axis Scale	Class	Ind
Set 1 (empty)	Set 1 (empty)		
Col 1			
Col 2			
Col 3			
Col 4			
Col 5			
Col 6			
Col 7			
Col 8			
Col 9			
Col 10			
Col 11			
Col 12			
Col 13			

Context menu for Axis Scale:

- Copy
- Paste
- Edit Axis Scale
- Clear
- Load Axis Scale**
- Extract Axis Scale
- Bulk Include Change

Command History

10.03.09 15:51

```
x=[200:2:3600]
y2=y'
PCA
```

>> PCA

>>

Start

OV

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	588	563	525	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
25878	25706	6794	6525	9407	1998	2061	16412	16723	3972
28701	28949	4255	4380	20623	20202	3972	3968	28701	28949
3972	3968								

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

y2 - DataSet Editor

File Edit View FigBrowser

Info Data Row Labels Column Labels

Title:

Label	Axis Scale
Set 1 (empty)	Set 1 (empty)
Col 1	
Col 2	
Col 3	
Col 4	
Col 5	
Col 6	
Col 7	
Col 8	
Col 9	
Col 10	
Col 11	
Col 12	
Col 13	

Load

Look In: >> Base Workspace <<

Variables

x	1x1701 (double)
y	1701x20 (double)
y2	20x1701 (double)

Variable:

From File Load Cancel

Command History

10.03.09 15:51

```
x=[200:2:3600]
y2=y'
PCA
```

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
550	588	563	525	606	559	555	606	565	592
4462	4467	4410	4355	4395	682	648	677	674	674
15864	15867	15584	15933	15938	3471	3367	3421	3476	3400
8031	7878	8026	8046	8128	5566	5635	5543	5519	5631
26132	25946	26127	25878	25706	6726	6715	6614	6794	6525
9480	9351	9418	9407	9287	1943	2043	2049	1998	2061
16667	16692	16662	16412	16723	3979	4014	3912	3972	3968
28857	28994	28906	28701	28949	4598	4463	4335	4255	4380
20406	20311	20455	20623	20202	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

y2 - DataSet Editor

File Edit View FigBrowser

Info Data Row Labels Column Labels

Title:

Label	Axis Scale	Class	Incl.
Set 1 (empty)	Set 1: (no n....	Set 1 (empty)	
Names:			
Col 1	200		☒
Col 2	202		☒
Col 3	204		☒
Col 4	206		☒
Col 5	208		☒
Col 6	210		☒
Col 7	212		☒
Col 8	214		☒
Col 9	216		☒
Col 10	218		☒
Col 11	220		☒
Col 12	222		☒
Col 13	224		☒

Command History

10.03.09 15:51

```
x = [200:2:3600]
y2 = y'
PCA
```

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Analysis - PCA (y2 Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

X-block

Y-block

Data: lables

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

View Preprocessed Data

Autoscale

Custom...

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative
1	4070	4122	4012
2	29494	29293	29453
3	4524	4448	4504
4	20757	20644	20594
5	4070	4122	3979

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

Command History

```

10.03.09 15:51
x=[200:2:3600]
y2=y'
PCA

```

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
559	588	562	575	606	559	555	606	565	592
4447	4434	4578	4455	4437	4462	4467	4410	4355	4395
614	737	664	667	723	682	648	677	674	674
16003	15689	15973	15761	16014	15864	15867	15584	15933	15938
3383	3544	3564	3393	3359	3471	3367	3421	3476	3400
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
5570	5572	5513	5589	5551	5566	5635	5543	5519	5631
26303	26278	26112	26057	26108	26132	25946	26127	25878	25706
6591	6775	6916	6847	6408	6726	6715	6614	6794	6525
9488	9507	9405	9399	9453	9480	9351	9418	9407	9287
1938	1989	1956	2011	1974	1943	2043	2049	1998	2061
16704	16843	16591	16589	16769	16667	16692	16662	16412	16723
4070	4122	4012	3979	4058	3979	4014	3912	3972	3968
29494	29293	29453	29438	29214	28857	28994	28906	28701	28949
4524	4448	4504	4309	4376	4598	4463	4335	4255	4380
20757	20644	20594	20474	20594	20406	20311	20455	20623	20202
4070	4122	4012	3979	4058	3979	4014	3912	3972	3968

Column 1701

44624
7983
1424
585
4278
687
15925
3463
7983
5442
26202
6578
9256
2000
16384
3929
28762
4520
20299
3929

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
labels	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
...	...	...	...	...	...	555	606	565	592
...	...	...	...	...	...	4467	4410	4355	4395
...	...	...	...	...	...	648	677	674	674
...	...	...	...	...	...	15867	15584	15933	15938
...	...	...	...	...	...	3367	3421	3476	3400
...	...	...	...	...	...	7878	8026	8046	8128
...	...	...	...	...	...	5635	5543	5519	5631
...	...	...	...	...	...	25946	26127	25878	25706
...	...	...	...	...	...	6408	6726	6715	6614
...	...	...	...	...	...	9453	9480	9351	9418
...	...	...	...	...	...	1974	1943	2043	2049
...	...	...	...	...	...	16769	16667	16692	16662
...	...	...	...	...	...	4058	3979	4014	3912
...	...	...	...	...	...	29214	28857	28994	28906
...	...	...	...	...	...	4376	4598	4463	4335
...	...	...	...	...	...	20594	20406	20311	20455
...	...	...	...	...	...	4058	3979	4014	3912

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

Preprocessing X-block

Available Methods

- Loop...
- Absolute Value
- Autoscale
- Baseline (Weighted Least Squares)
- Derivative (SavGol)
- Detrend
- GLS Weighting
- Group Scale
- Log Decay Scaling
- Log10
- Mean Center
- Median Center

Selected Methods

- Mean Center
- SNV
- Derivative (SavGol)
- <end>

Add --> <-- Remove up down Settings...

OK Cancel

Savitsky-Go...

Filter Width: 15

Polynomial Order: 2

Derivative Order: 1

OK Cancel

Column 1701

44624
7983
1424
585
4278
687
15925
3463
7983
5442
26202
6578
9256
2000
16384
3929
28762
4520
20299
3929

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
...	...	...	...	606	559	555	606	565	592
...	...	...	...	4437	4462	4467	4410	4355	4395
...	...	...	...	723	682	648	677	674	674
...	...	...	...	16014	15864	15867	15584	15933	15938
...	...	...	...	3359	3471	3367	3421	3476	3400
...	...	...	...	8067	8031	7878	8026	8046	8128
...	...	...	...	5551	5566	5635	5543	5519	5631
...	...	...	...	26108	26132	25946	26127	25878	25706
...	...	...	...	6408	6726	6715	6614	6794	6525
...	...	...	...	9453	9480	9351	9418	9407	9287
...	...	...	...	1974	1943	2043	2049	1998	2061
...	...	...	...	16769	16667	16692	16662	16412	16723
...	...	...	...	4058	3979	4014	3912	3972	3968
...	...	...	...	29214	28857	28994	28906	28701	28949
...	...	...	...	4376	4598	4463	4335	4255	4380
...	...	...	...	20594	20406	20311	20455	20623	20202
...	...	...	...	4058	3979	4014	3912	3972	3968

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: loaded but not analyzed Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

Preprocessing X-block

Available Methods

- Loop...
- Absolute Value
- Autoscale
- Baseline (Weighted Least Squares)
- Derivative (SavGol)
- Detrend
- GLS Weighting
- Group Scale
- Log Decay Scaling
- Log10
- Mean Center
- Median Center

Selected Methods

- Mean Center
- SNV
- 1st Derivative (SavGol)
- <end>

Buttons: Add --> Show OK Cancel

X: Y: Excluded

Column 1701

44624
7983
1424
585
4278
687
15925
3463
7983
5442
26202
6578
9256
2000
16384
3929
28762
4520
20299
3929

>> PCA

>>

Command History

```

10.03.09 15:51
x=[200:2:3600]
y2=y'
PCA

```

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1545	1596	1608	1526	1556	1566	1574	1603	1603	1511
588	562	575	606	559	555	606	565	565	592
4434	4578	4455	4437	4462	4467	4410	4355	4395	
737	664	667	723	682	648	677	674	674	
15689	15973	15761	16014	15864	15867	15584	15933	15938	
3544	3564	3393	3359	3471	3367	3421	3476	3400	
8033	7985	7960	8067	8031	7878	8026	8046	8128	
5572	5513	5589	5551	5566	5635	5543	5519	5631	
26278	26112	26057	26108	26132	25946	26127	25878	25706	
6775	6916	6847	6408	6726	6715	6614	6794	6525	
9507	9405	9399	9453	9480	9351	9418	9407	9287	
1989	1956	2011	1974	1943	2043	2049	1998	2061	
16843	16591	16589	16769	16667	16692	16662	16412	16723	
4122	4012	3979	4058	3979	4014	3912	3972	3968	
29293	29453	29438	29214	28857	28994	28906	28701	28949	
4448	4504	4309	4376	4598	4463	4335	4255	4380	
20644	20594	20474	20594	20406	20311	20455	20623	20202	
4122	4012	3979	4058	3979	4014	3912	3972	3968	

Analysis - PCA (No Model) - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: Calculate/Apply Model Model: not calculated

Var: y2

Size: 20 x 1701

Samp Lbls:

Var Lbls:

Number PCs:

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative
15925			
3463			
7983			
5442			
26202			
6578			
9256			
2000			
16384			
3929			
28762			
4520			
20299			
3929			

Data has been loaded but no model exists. Set the preprocessing and other options (from the Preprocess and Tools menus) and calibrate a model (Calibrate button). The data can be viewed and edited with the Edit menu.

Command History

```

>> 10.03.09 15:51 --%
>> x=[200:2:3600]
>> y2=y'
>> PCA
  
```

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\JakubS\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1545	1596	1608	1526	1556	1566	1574	1603	1603	1511
588	562	575	606	559	555	606	565	565	592
4434	4578	4455	4437	4462	4467	4410	4355	4395	
737	664	667	723	682	648	677	674	674	
15689	15973	15761	16014	15864	15867	15584	15933	15938	
3544	3564	3393	3359	3471	3367	3421	3476	3400	
8033	7985	7960	8067	8031	7878	8026	8046	8128	
5572	5513	5589	5551	5566	5635	5543	5519	5631	
26278	26112	26057	26108	26132	25946	26127	25878	25706	
6775	6916	6847	6408	6726	6715	6614	6794	6525	
9507	9405	9399	9453	9480	9351	9418	9407	9287	
1989	1956	2011	1974	1943	2043	2049	1998	2061	
16843	16591	16589	16769	16667	16692	16662	16412	16723	
4122	4012	3979	4058	3979	4014	3912	3972	3968	
29293	29453	29438	29214	28857	28994	28906	28701	28949	
4148	4504	4309	4376	4598	4463	4335	4255	4380	
20644	20594	20474	20594	20406	20311	20455	20623	20202	
4122	4012	3979	4058	3979	4014	3912	3972	3968	

Analysis: PCA 1 PCs - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: modeled/calibration set
Var: y2
Size: 20 x 1701
Samp Lbls:
Var Lbls:

Model: calibrated but not applied
Type: PCA (1 PCs)
Preprocessing: Mean Center, S
Data: 20 x 1701

Number PCs: 2

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue	% Variance of Cov(X)	% Variance This PC	% Variance Cumulative
1	2.76e-001	76.80	76.80	
2	2.60e-002	7.23	84.03	
3	2.17e-002	6.03	90.05	
4	1.16e-002	3.42	93.47	
5	6.29e-003	1.75	94.92	
6	4.86e-003	1.35	96.27	
7	3.17e-003	0.88	97.15	
8	2.76e-003	0.77	97.92	
9	2.30e-003	0.64	98.56	
10	1.77e-003	0.49	99.05	

The modeling settings have changed and the model must be recalculated (Calibrate button).

Command History

```

>> 10.03.09 15:51 --%
>> x=[200:2:3600]
>> y2=y'
>> PCA
  
```

>> PCA

>>

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\Jukub\S\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
							606	565	592
							4410	4355	4395
							677	674	674
							15584	15933	15938
							3421	3476	3400
							8026	8046	8128
							5543	5519	5631
							26127	25878	25706
							6614	6794	6525
							9418	9407	9287
							2049	1998	2061
							16662	16412	16723
							3912	3972	3968
							28906	28701	28949
							4335	4255	4380
							20455	20623	20202
							3912	3972	3968

Analysis - PCA 2 PCs

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowse

Data: modeled (calibrated) on loaded data
Var: y2
Size: 20 x 1701
Samp Lbls:
Var Lbls:

Plot loads and variable statistics (type: PCA 2 PCs)
Preprocessing: Mean Center, S
Data: 20 x 1701

Number PCs: 2

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative
1	2.76e-001	76.80	76.80
2	2.60e-002	7.23	84.03
3	2.17e-002	6.03	90.05
4	1.12e-002	3.12	93.17
5	6.29e-003	1.75	94.92
6	4.86e-003	1.35	96.27
7	3.17e-003	0.88	97.15
8	2.76e-003	0.77	97.92
9	2.30e-003	0.64	98.56
10	1.77e-003	0.49	99.05

A model has been calibrated from the data. Review the model using the toolbar button(s), save the model (File menu), or load test (validation) data (File menu). The number of components, preprocessing options, and other settings can also be modified to adjust the model. The data can be viewed and edited from the Edit

Plot Controls

File Edit View Plot FigBrowse

X: Variable
Y: Loadings on PC 1 (76.80%)
Z: none

Plot ☒ auto-update

Select

varcap data info

Figure 1: Variables/Loadings - PCA 2 PCs - y2

File Edit View Insert Tools Desktop Window Help FigBrowser PlotGUI

Variables/Loadings Plot for y2

Loadings on PC 1 (76.80%)

Variable

Command History

```

> 10.03.09 1
> x=[200:2:3600]
> y2=y'
> PCA
  
```

Start

OVR

MATLAB 7.4.0 (R2007a)

File Edit Debug Desktop Window Help

Current Directory: D:\Jukub\S\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Stack: Base

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select [MATLAB Help](#) or [Demos](#) from the Help menu.

Columns 1691 through 1700

44595	45107	44476	44391	44656	44458	43492	44946	44163	44049
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
1540	1545	1596	1608	1526	1556	1566	1574	1603	1511
							606	565	592
							4410	4355	4395
							677	674	674
							15584	15933	15938
							3421	3476	3400
							8026	8046	8128
							5543	5519	5631
							26127	25878	25706
							6614	6794	6525
							9418	9407	9287
							2049	1998	2061
							16662	16412	16723
							3912	3972	3968
							28906	28701	28949
							4335	4255	4380
							20455	20623	20202
							3912	3972	3968

Analysis - PCA 2 PCs - y2

File Edit Preprocess Analysis Tools Help FigBrowser FigBrowser

Data: modeled (Plot scores and sample statistics) brated on loaded data

Var: y2 Type: PCA (2 PCs)

Size: 20 x 1701 Preprocessing: Mean Center, S

Samp Lbls: Data: 20 x 1701

Var Lbls:

Number PCs: 2

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue	% Variance of Cov(X)	% Variance This PC	% Variance Cumulative
1	2.76e-001	76.80	76.80	
2	2.60e-002	7.23	84.03	
3	2.17e-002	6.03	90.05	
4	1.12e-002	3.12	93.17	
5	6.29e-003	1.75	94.92	
6	4.86e-003	1.35	96.27	
7	3.17e-003	0.88	97.15	
8	2.76e-003	0.77	97.92	
9	2.30e-003	0.64	98.56	
10	1.77e-003	0.49	99.05	

A model has been calibrated from the data. Review the model using the toolbar button(s), save the model (File menu), or load test (validation) data (File menu). The number of components, preprocessing options, and other settings can also be modified to adjust the model. The data can be viewed and edited from the Edit

Plot Controls

File Edit View Plot FigBrowser

Fig 1: Samples/Scores - PC...

X: Scores on PC 1 (76.80%)

Y: Scores on PC 1 (76.80%)
Scores on PC 2 (7.23%)
Q Residuals (15.97%)
Hotelling T^2 (84.03%)

Z: none

Plot ☒ auto-update

Select

Q con T con

data info

☐ Show Cal Data with Test

☐ Conf. Limits: 95 %

Figure 1: Samples/Scores - PCA 2 PCs - y2

File Edit View Insert Tools Desktop Window Help FigBrowser PlotGUI

Samples/Scores Plot of y2

Start

OVR

MATLAB 7.4.0 (R2007a)
 File Edit Debug Desktop Window Help
 Current Directory: D:\Jukub\S\Documents\MATLAB

Shortcuts: How to Add What's New

Current Directory Workspace

Name	Value	Min	Max
lables	<20x1 cell>		
x	<1x1701 double>	200	3600
y	<1701x20 double>	386	63622
y2	<20x1701 double>	386	63622

Command Window

To get started, select **MATLAB Help** or **Demos** from the Help menu.

3383	3544	3564	3393	3359	3471	3367	3421	3476	3400
8020	8033	7985	7960	8067	8031	7878	8026	8046	8128
5570	5572	5513	5589	5551	5566	5635	5543	5519	5631
26303	26278	26112	26057	26108	26132	25946	26127	25878	25706
6591	6775	6916	6847	6408	6726	6715	6614	6794	6525
9488	9507	9405	9399	9453	9480	9351	9418	9407	9287
							2049	1998	2061
							16662	16412	16723
							3912	3972	3968
							28906	28701	28949
							4335	4255	4380
							20455	20623	20202
							3912	3972	3968

Analysis - PCA 2 PCs - y2
 File Edit Preprocess Analysis Tools Help FigBrowser FigBrowse

Data: modeled (calibration set) Model: calibrated on loaded data
 Var: y2 Type: PCA (2 PCs)
 Size: 20 x 1701 Preprocessing: Mean Center, S
 Samp Lbls: Data: 20 x 1701
 Var Lbls:

Number PCs: 2

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative
1	2.76e-001	76.80	76.80
2	2.60e-002	7.23	84.03
3	2.17e-002	6.03	90.05
4	1.12e-002	3.12	93.17
5	6.29e-003	1.75	94.92
6	4.86e-003	1.35	96.27
7	3.17e-003	0.88	97.15
8	2.76e-003	0.77	97.92
9	2.30e-003	0.64	98.56
10	1.77e-003	0.49	99.05

A model has been calibrated from the data. Review the model using the toolbar button(s), save the model (File menu), or load test (validation) data (File menu). The number of components, preprocessing options, and other settings can also be modified to adjust the model. The data can be viewed and edited from the Edit

Plot Controls
 File Edit View Plot FigBrowse

X: Scores on PC 1 (76.80%)
 Y: Scores on PC 2 (7.23%)
 Z: none
 Q Residuals (15.97%)
 Hotelling T^2 (84.03%)

Plot auto-update
 Select
 Q con T con
data info
 Show Co Plot raw data associated with a single sample.
 Conf. Limits: 95 %

Figure 1: Samples/Scores - PCA 2 PCs - y2
 File Edit View Insert Tools Desktop Window Help FigBrowser PlotGUI

Samples/Scores Plot of y2

Command History

```

> 10.03.09 15
> x=[200:2:3600]
> y2=y'
> PCA
  
```

Command Window

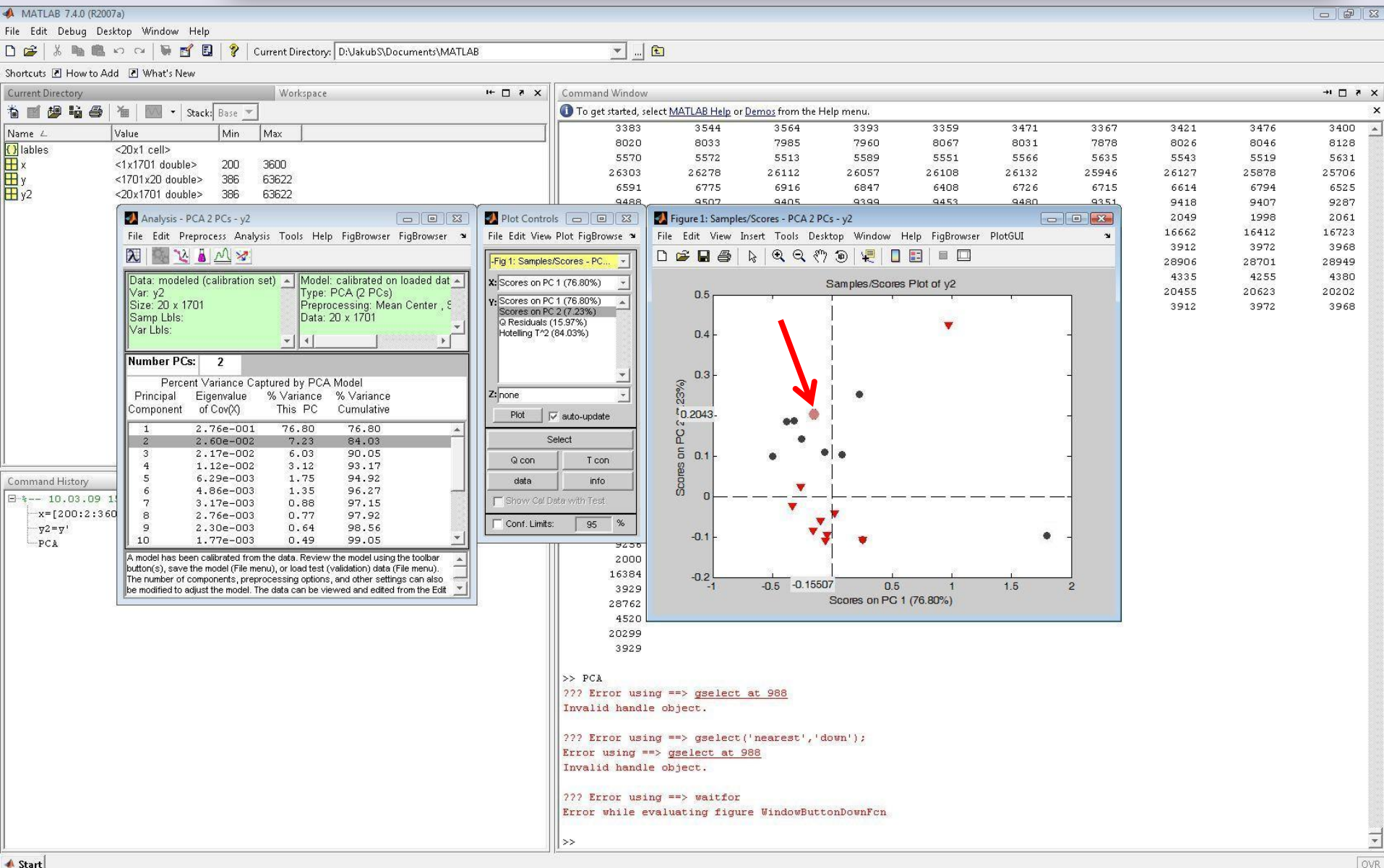
```

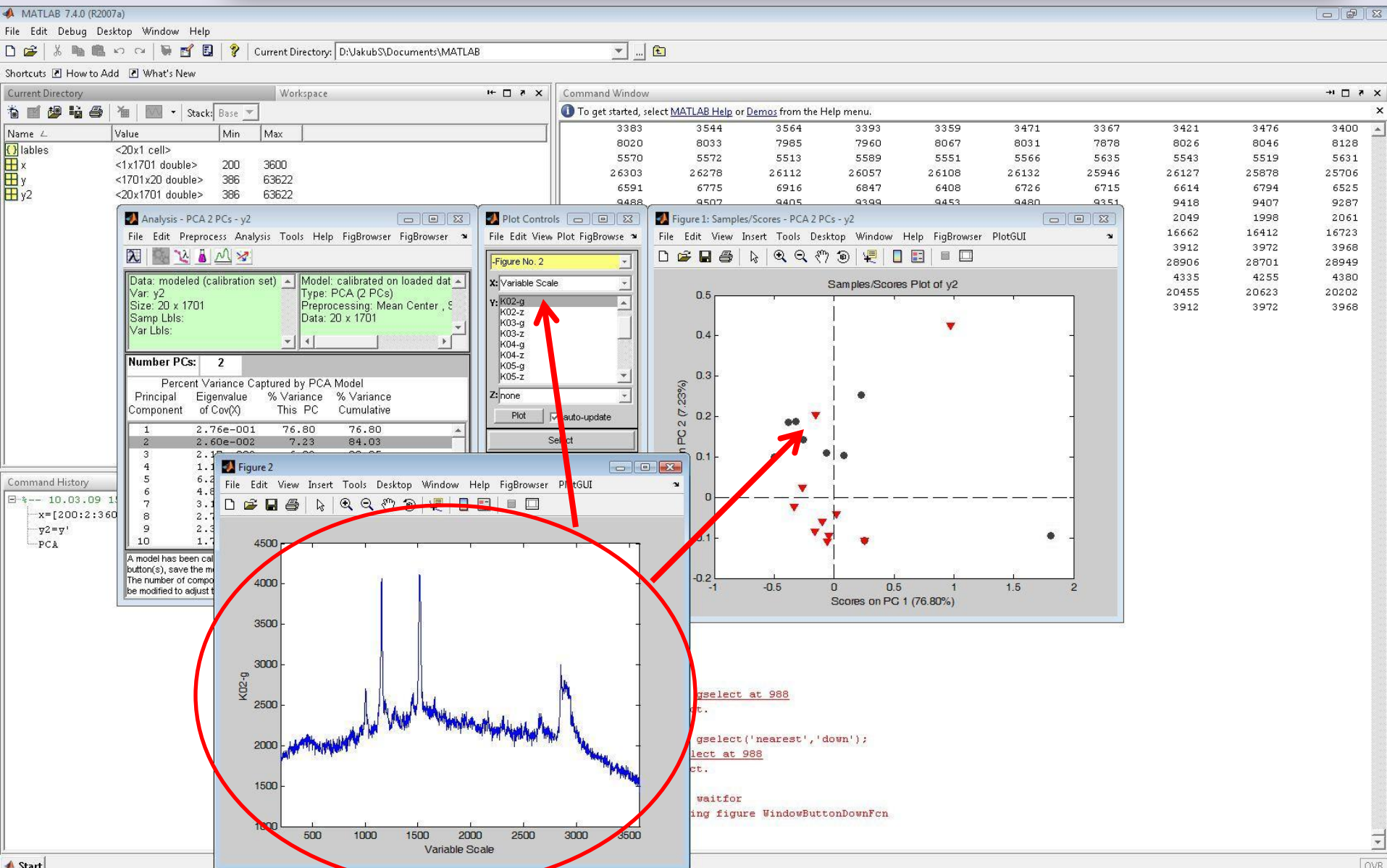
>> PCA
??? Error using ==> gselect at 988
Invalid handle object.

??? Error using ==> gselect('nearest','down');
Error using ==> gselect at 988
Invalid handle object.

??? Error using ==> waitfor
Error while evaluating figure WindowButtonDownFcn

>>
  
```





Dziękuję za uwagę!

