

**Van Mierlo**  
**Software Consultancy**

Liesbergstraat 9  
5628 ED Eindhoven

Telefoon & fax: 040 - 2411945  
Email: mierlo@Compuserve.com

## Analysis of 531-s~bp.

The file 531-s~bp is an ASCII file containing test data for a DAX analysis. Below the procedure used to analyse the file's contents is described in detail.

With file type still set to "DAX files" the filename 531-s~bp was entered in the file open dialog. DAX recognises that the file is in ASCII format and displays the data interpretation dialog:

Data Table Interpretation of G:\CSERVE\DOWNLOAD\BRILJA~2\531-S~BP

Frequency (Hz): 1

Skipped Header Lines: 17

Enter frequency

Frequency from file

Frequency from column data (times in seconds)

Frequency from column data (times in minutes)

Data Column: 2

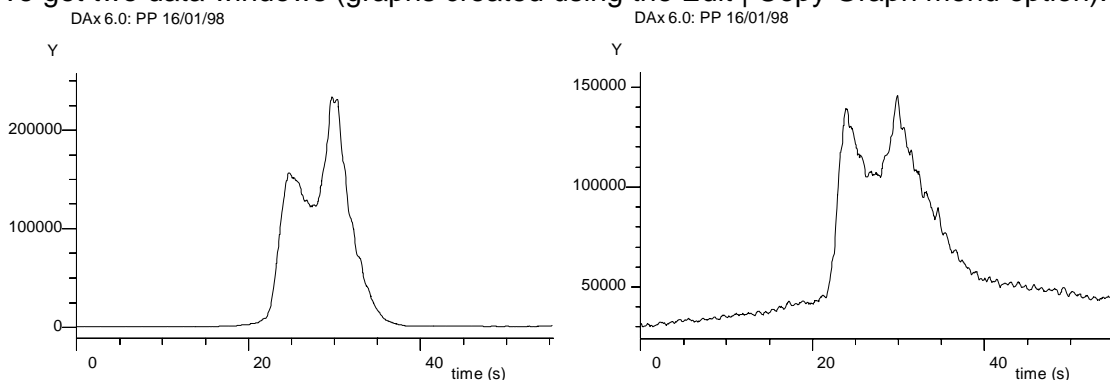
Time Column: 1

Line	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
16	"Average"						
17	"Reading"	"Time (secs)"	"S 34"	"Ar2 80"			
18	1	0.000	4.444e+02	" "	3.106e+04		
19	2	0.062	5.278e+02	" "	3.178e+04		
20	3	0.125	6.730e+02	" "	3.146e+04		
21	4	0.187	5.000e+02	" "	2.997e+04		
22	5	0.250	5.637e+02	" "	3.022e+04		

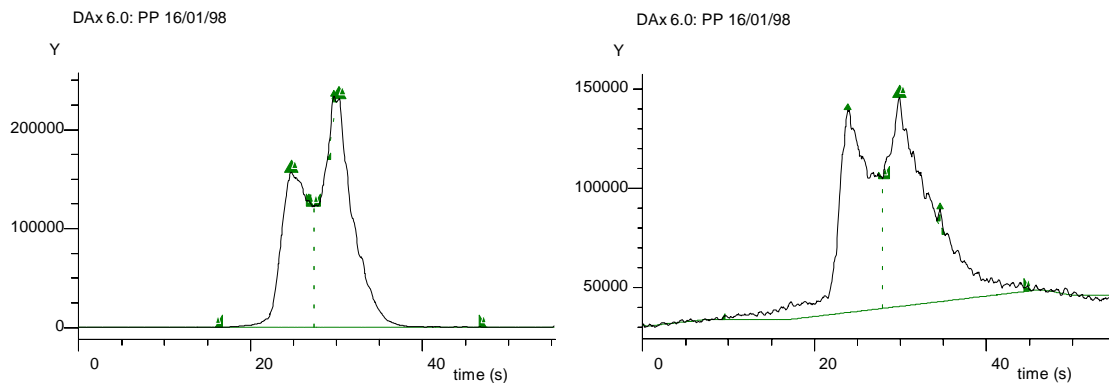
Buttons: OK, OK to All, Cancel, Cancel All,  Stop displaying this dialog, Help

In this dialog, time column needs to be changed to 2, and data column to 3. The file is then read again with time column set to 2 and data column set to 4.

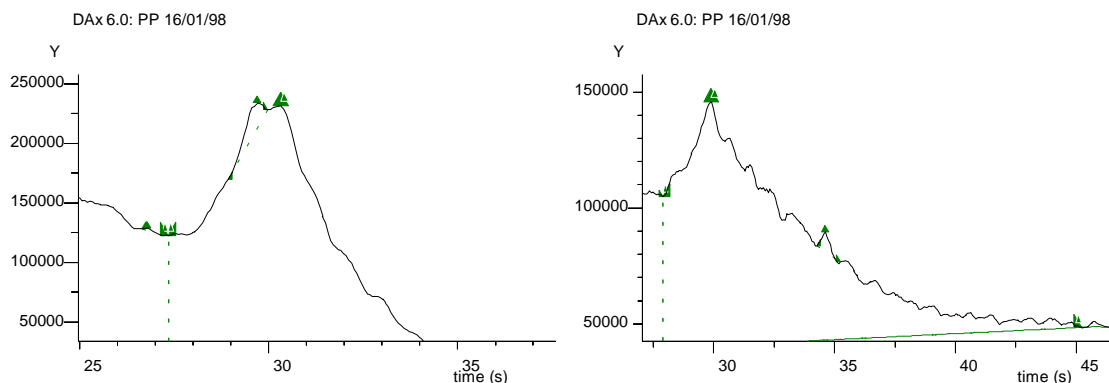
We get two data windows (graphs created using the Edit | Copy Graph menu option):



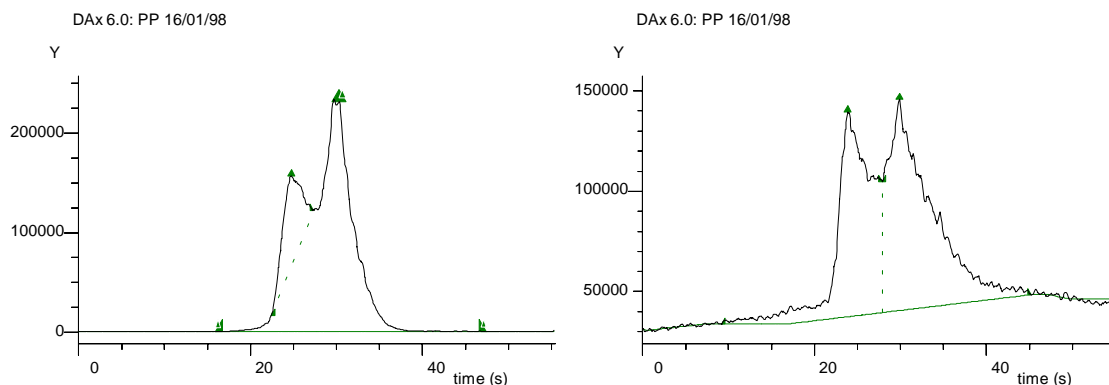
These graphs contain few peaks, and the peaks are wide. For this reason, the automatic baseline construction width setting should not be used in DAX, because it will cause DAX to interpret the peaks as baseline drift. Instead, the baseline construction width is set to 50%. Constructing baselines and finding peaks (with default settings) then gives the following results:



Small shoulder peaks have been automatically detected in both graphs. This is shown in detail views:



Specifying a minimum peak area of 1% in the peak find dialog removes these small shoulder peaks, causing just two main peaks to be left in each graph. The results are as follows:



A shoulder peak is detected in the first graph, but DAX concludes that the peaks in the second graph have equal importance<sup>1</sup>.

*Synopsis of manual adjustments made:* just two parameters have been manually adjusted: the baseline construction width was changed from automatic to 50% fixed, and the minimum peak area was set to 1%. These settings could be used for all future analyses.

*Further adjustments:* two possible adjustments come to mind.

1. Adjusting the baseline in the rightmost graph. Using a simple drag and drop operation the baseline might be adjusted to follow the data through to 20 seconds.
2. The right peak in the leftmost graph might be made the shoulder instead of the left peak. This too could be achieved using a very simply drag and drop operation.

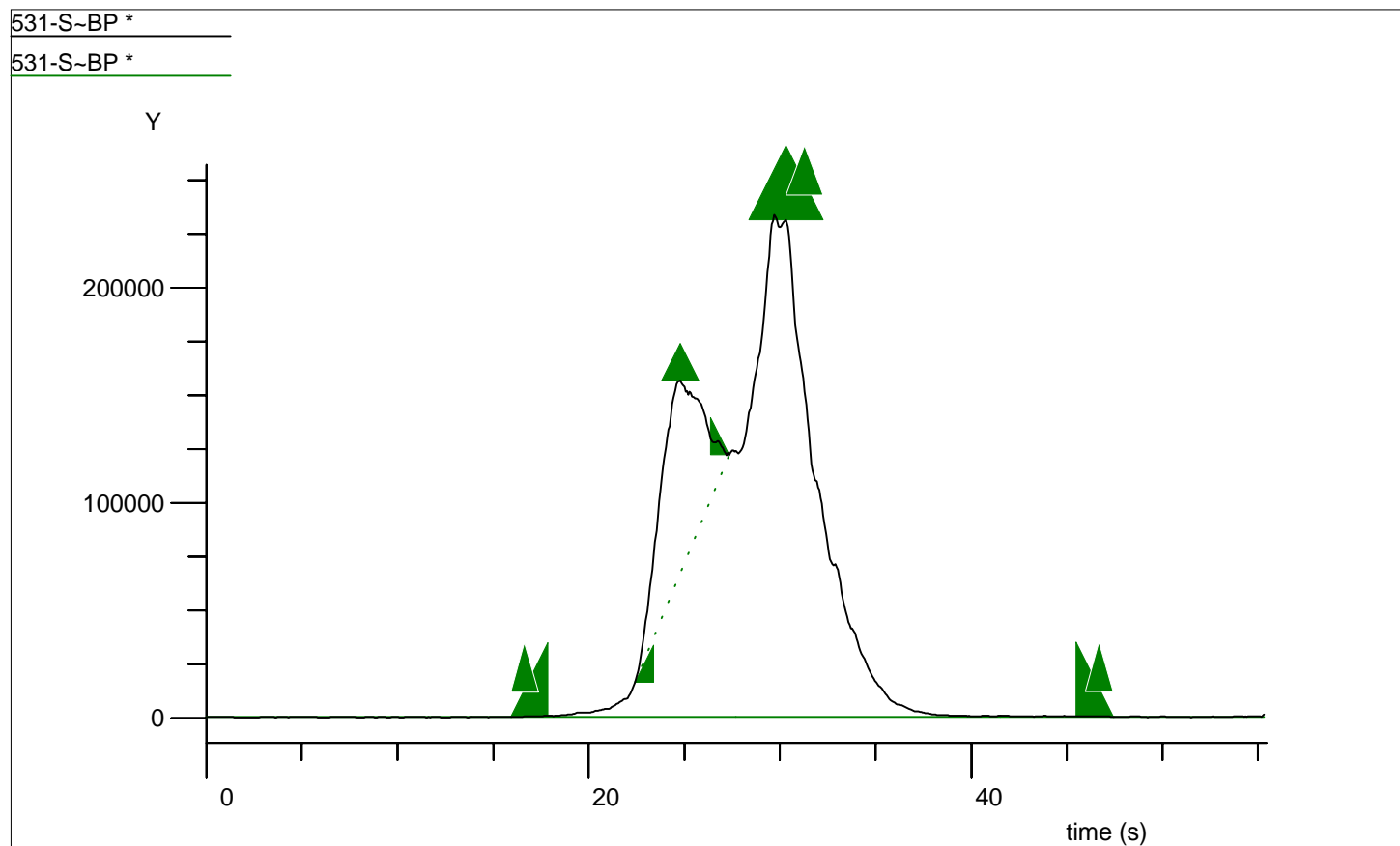
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<sup>1</sup> adjusting the *skim limit* to 3 causes the right peak to be considered a shoulder peak

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## Measurement Report

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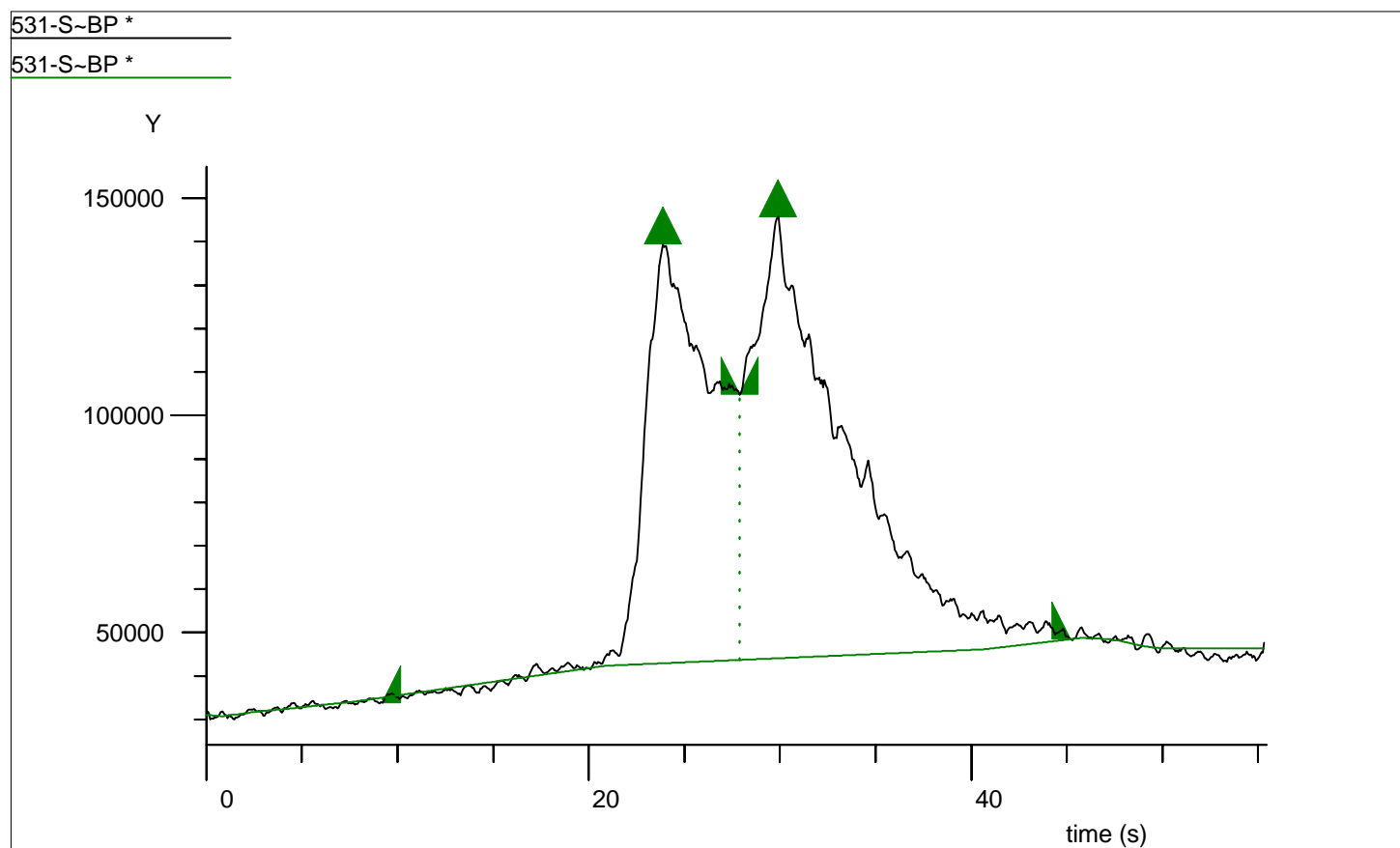
Point to point noise (V): 203 (0.09%); RMS Noise (V): 101.5 (0.04%)

Peak	Begin (s)	Top (s)	End (s)	Top (V)	Area (V.s)	Rel.Area %
1s	22.432	24.786	27.347	89673	2.3048E+05	14.8
2S	15.924	30.325	47.425	2.3107E+05	1.3216E+06	85.2
2 of 2 peaks					1.5521E+06	100

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## Measurement Report

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Point to point noise (V): 2259.6 (1.95%); RMS Noise (V): 790.9 (0.68%)

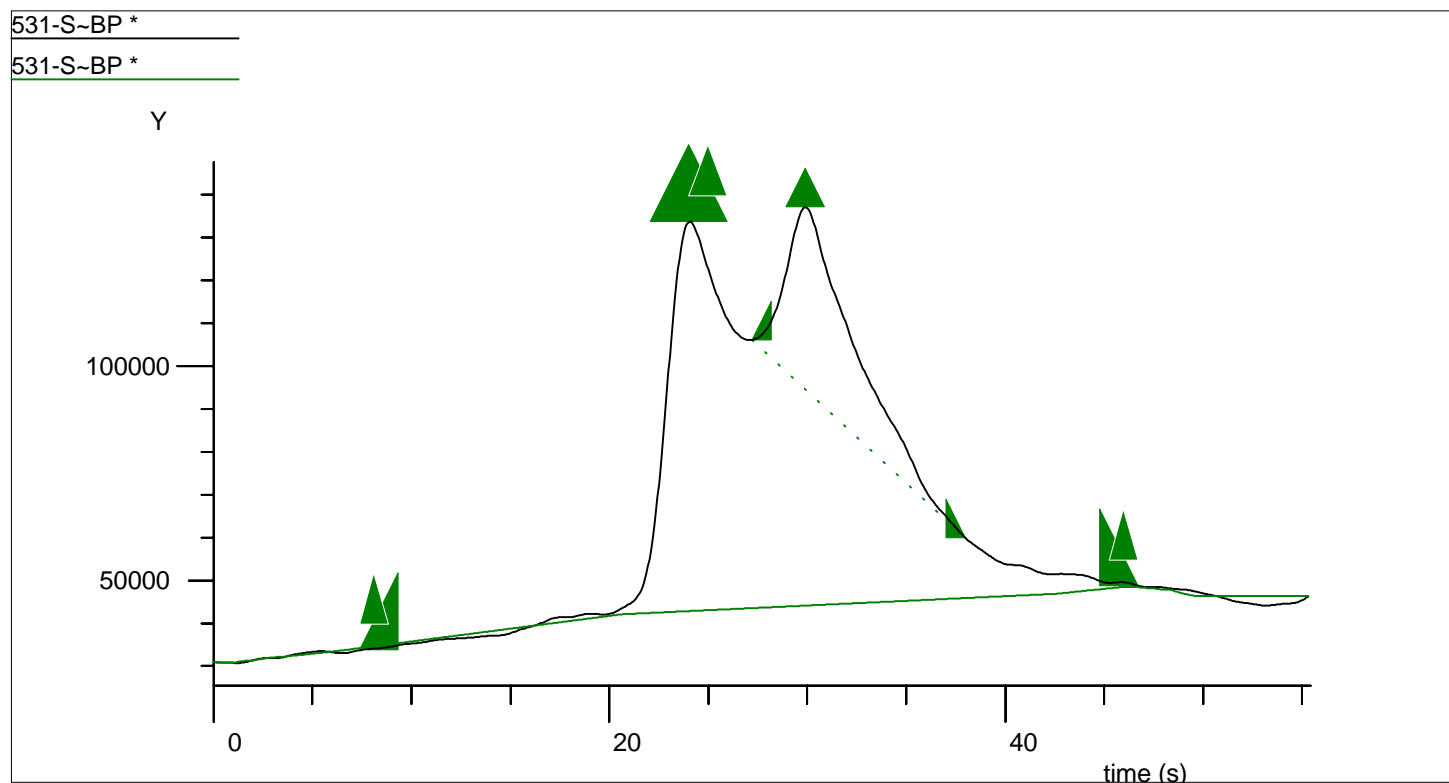
Peak	Begin (s)	Top (s)	End (s)	Top (V)	Area (V.s)	Rel.Area %
1	9.208	23.886	27.901	96461	3.9709E+05	40.3
2	27.901	29.909	45.210	1.0161E+05	5.8718E+05	59.7
2 of 2 peaks					9.8427E+05	100

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## Measurement Report

16/01/98 19:40:36

Applying a 20 point Fourier filter:



Point to point noise (V): 513.82 (0.48%); RMS Noise (V): 233.08 (0.22%)

Peak	Begin (s)	Top (s)	End (s)	Top (V)	Area (V.s)	Rel.Area %
1S	7.408	24.024	46.733	90860	8.1052E+05	82.7
2s	27.209	29.909	38.009	42536	1.6904E+05	17.3
2 of 2 peaks					9.7956E+05	100