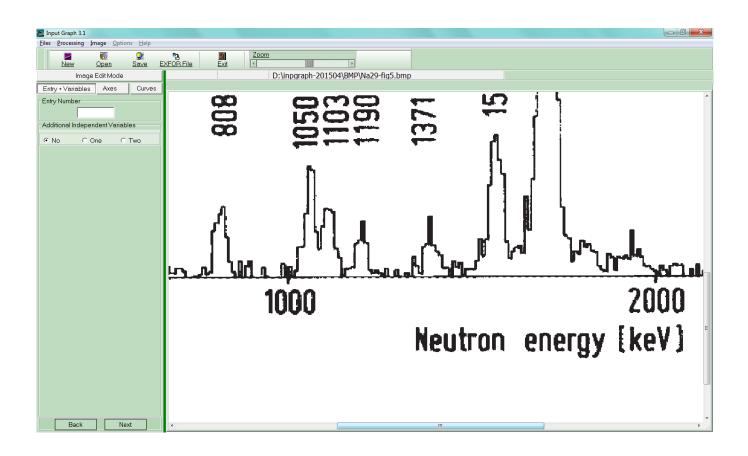
Comments on InpGraph digitizer (Sarov)

3.1 (2015):

- if compiler defined units of scale and then heading, the units are disappeared.



Compiler can not correct only one point of axes, e.g. left at axes X.

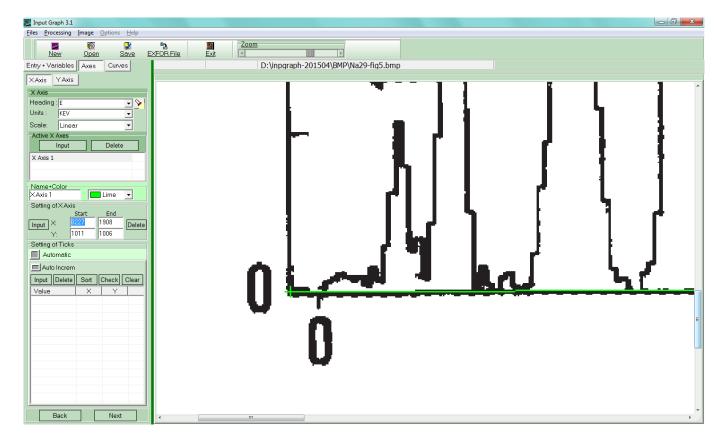
If compiler put "delete" both values are deleted.

It's better to implement "delete" for each point (left and right for axes X; upper and down for axes Y)

Also the values in pixels can not be corrected directly in their windows, so they look like useless.

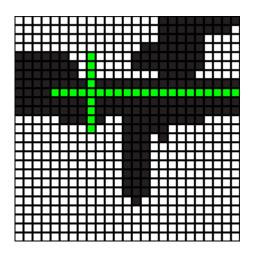
And if put "delete" then to insert new points for axes - compiler needs to put again "input".

It's better to press "input" when all points will be o'k.



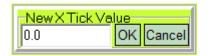
When compiler introduces ticks values:

- This window overlaps the part of figure which is increased and compiler does not see more details and can not move this window



If I put the point then this window disappears and I do not see the exactly is this point put correctly or not.

And when I define the first value as:



And then put "OK" and I see:

ERROR	×
	Incorrect numeric value
	ОК

So work of digitization is stopped at this step and I could not continue:



Conclusion – for my work of digitization this version is useless. I do not know a reason, may be the digitizer was influenced by virus when I copied it from web-site. But may be there are some mistakes in this version of digitizer.

2.5 (2014)

I use the older version of digitizer 2.5 (2014 year).

- Line of scale is defined by only two points as direction.

- I stacked with a problem when digitized a figure, where were low values of data (beta delayed neutron spectra) near the X axes. The figure was scanned from old article in the journal.

EXFOR-DIGITIZER - INPGRAPH 2.5				
Figure Options Processing But				
D:\INPUTGRAPH-2014\BMP\Na29-fig5.bmp D:\INPUTGRAPH-2014\SRC\Na29-fig5.00.SRC				
	^	Command 0	Coord. X Cor	ord. Y # 🔺
		(0248 101	3
			0782 101	
			1861 100	6
		END		
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		END		
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			0226 101	3
			0224 077	
			0222 054	
			0221 030	
		END	0219 007	3
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			0772 098	
r r			0777 098 0778 100	
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			0782 099	
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		om 1 + -	C View	C Check
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9 points were put, 8 of them are upper than line of X axes, last right point is directly on line of axes.

I expected that 8 points values will be positive and last – zero.

But I obtained five negative values! :

E C	DATA
KEV	ARB-UNITS
2981.0	97479
3008.9	-1.0389
3008.9	2.3681
3020.1	2.3425
3020.1	21276
3029.4	23412
3029.4	2.3211
3038.7	2.2998

3040.5 -1.9633

Even I put ticks point directly on the line of axes X.

- And I added quantization errors in EXFOR file:

AxBx			Add to EXFOR-file
Curve	E, KEV	DATA, ARB-UNI	
1 - var 1	1.860	0.851	

but they were added without units in EXFOR file:

D:NNPUTGRAPH:2014\SRCWa29.fig5_00.EXF ENTRY g5_00 201610 SUBENT g5_00001 BIB 6 6 TITLE AUTHOR INSTITUTE REFERENCE FACILITY ERR-ANALYS Quantization Error: 1 - var 1 E: 1.860, DATA: 0.851 HISTORY (20161018C) ENDBIB NOCOMMON ENDSUBENT SUBENT g5_00002 BIB 4 3 REACTION ERR-ANALYS (E-ERR-DIG) Digitizing error (ERR-DIG) Digitizing error STATUS (CURVE) var 1 ENDBIB COMMON 2 3 E-ERR-DIG ERR-DIG KEV ARB-UNITS 1.7880 0.64253 ENDCOMMON DATA 2 19 E DATA	🧱 File Editor							×
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ENDCOMMON DATA 2 19 E DATA								
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E DATA		2	10					
		-	19					
	L	DATA					-	

It has to be:

ERR-ANALYS Quantization Errors: E: 1.860 keV, DATA: 0.851 ARB-UNITS

- In this case I obtained the digitization errors:

Quantization Errors: E: 1.860 keV, DATA: 0.851 ARB-UNITS Digitization errors: E-ERR-DIG=1.7880keV, ERR-DIG=0.64253 ARB-UNITS Let us compare with the last point value: at 3040.5 keV data value -1.9633 arb-units. As you see this point lies directly on X axes line, so it's data value has to be 0. in range of digitization errors for DATA. Sum of quantization and digitization errors is 0.851+0.64253=1.49353 arb-units, What is less than 1.9633 arb-units.

So , real error of digitization is higher than the sum of two digitization errors in this case. This is just an example.

As I suppose, the reason(s) can be analyzed and some improvements could be made. And/or some advances (how to avoid such cases) could be produced for compilers.

Errors at digitization (for discussion) :

- each line (two scales, ticks on scales), each data point (symbol) could be drown by quantization error – at preparation of figure;

- at digitization process – compiler again put points as a symbol (e.g. cross "+") to define scales, ticks, data points and all these points could be put with quantization error;
- error due to non-linearity of scale line for both scales;

-errors due to that the angle between axes is not 90 degrees.

How we have to estimate all these errors and how they could be combined into one "total" error of digitization?