# **Examples and Exercises to Work with the InpGraph Program**

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Notes:

# Start



To run **InpGraph** double-click the InpGraph icon on a desktop or double-click the filename in a program folder.

### Exercise 1: Uploading of a picture to be digitized

1. Run InpGrpah.

### **Procedure 1**

2. Click the <u>New</u> button on a Toolbar or select the <u>New From File</u> item from menu <u>Files</u>.

	Открыть			×
	Папка:	BMP	- + 🗈 🗗 -	(1466x1434)
		Vies =	+ Разнер - Дата изненения -	
INEW		0001.3PG	152 K5 17.04.2018 12:17	
		exmpl.bmp	961 KE 07.04.2015 14:13	
		F1170_4.bmp	182 K5 15.04.2015 08:30	
		Fig1.bmp	2 652 KB 20.06.2007 10:07	
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Thes trocessing image options hop	The second second	7 Fichben	128 KK 22, 10, 2007 14:23	
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en Sa	Пикулина Галина Нако	Ris1.bmp	757 KB 14.10.2016 17:08	the main is
New from Screenshot	and the second se	P Ris2.bmp	509 K5 17.10.2016 16:34	
		Ris2_Bookitet.bmp	697 KB 17.10.2016 10:22	- mail
Open Project	Контьютер	P 550001A.BMP	3 860 KB 22.03.2018 13:45	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Recent Projecto	(and a local sector)			
Recent Projects	<b>1</b>			
Save Project	Gra	Vivia qualina: RoSbmo	• Or	KD6/Te
age		Two makets	inen finn fins familier	Themas
EXIL		The case was	beht week seet seet.	Succession and a second s

3. Select and open a file (of any graphic format) for digitizing.

## **Procedure 2**

2. Select the **<u>New From Screenshot</u>** item from menu **<u>Files.</u>** 



3. Select an image area to be loaded dragging and resizing window frame.

- 4. Press **F6** key to load the selected area into digitizer.
- 5. Press **ESC** key to close the frame without loading the image.

### Plot digitizing Notes: It is not necessary to follow the order of digitizing procedures proposed below. All exercises are performed with the Fig4.bmp file from the BMP folder of program InpGraph directory. Load the **Fig4.bmp** file as it is described in the exercise 1. Plot scale may be adjusted using the **Zoom** track bar. - 0 × Y OR File Zoom Exit 56.2% Open Save • . New Image Edit Mode C:\MyProgram\_VExfor\ExfInpGraph\_WZRD\BMP\Fig Entry + Variables Curves Akes Entry Numbe Main Menu Toolbar Zoom Gauge 'Si (0) Additional Independe ariables Graa=30° 0,8 · No CO C Two 0,4 405600000000000000 (0) 0,6 150° Digitized DTTH. 80. Bookmarks of 0,2 Image **Digitizing Steps** 0.75 MaB) 0,6 30° 0,Z Transfer between (0,75,M38 0.3 **Digitizing Steps** 150 0 1,9 Ed, M38 Back Next **Exercise 2: Setting of additional independent variables** 1. Select the Entry+Variables bookmark. 2. In the **Entry Number** field enter the entry number for digitized data. 3. In the Additional Independent Variables group box set the number of independent variables to be used. In the present example set Two – two additional independent variables are given on a plot. 4. In group boxes First Additional Variable and Second Additional Variable enter the headings and units for additional independent variables. In the present example set the values of E-LVL, MEV for the first variable and the values of ANG, ADEG for the second variable.

Entry + Variables Axes Curves		
Entry Number	1.2 1	Notes:
F9999	31 c: (0)	
Additional Independent Variables		
O No O One O Two	$0.8 - \theta_{ac} = 30^{\circ}$	
Heading: E-LVL	-90 9100	
Units : MEV		
Second Additional Variable	0.4	
Heading: ANG		
	40000000000	

Use drop-down lists to search and select heading and units for independent variables. Lists include the values uploaded from EXFOR dictionaries.

Use context search to select the appropriate name of independent variable from EXFOR dictionaries.

	ANG	Angle, laboratory system
/	ANG-AZ	Azimuthal angle
1	ANG-AZ-RL	Azimuthal angle between 2 reaction planes
/	ANG-AZ1	Azimuthal angle
1	ANG-AZ2	Azimuthal angle
/	ANG-CM	Angle, c.m. system
1	ANG-CM-DN	Angle for REACTION ratio denominator, c.m. system

### **Exercise 4: Settings parameters of X-axis**

1. Select the <u>Axes|XAxis</u> bookmark.

Entry + Vari	iables [	Axes	Curves	8
XAxis	Y Axis			
X Axis				
Heading :	EN			- 🝾
Units :	MEV			-
Scale:	Linear			•
Available	X Axes			
	nput		Delete	
X Axis 1				
Name+C	olor			
Name+C X Axis 1	olor		Lime	•
Name+C X Axis 1	olor X Axis		Lime	•
Name+C X Axis 1 Setting of	olor X Axis Sta		Lime End	
Name+C X Axis 1 Setting of	olor X Axis Sta 015		Lime End 875	▼ Delete

2. In the <u>Heading</u> field of group box <u>X Axis</u> set the name of X-axis, in the <u>Units</u> field set the units, in the <u>Scale</u> field select the type of scale – linear or logarithmic (Linear/Logarithmic).

	In the present example set the following values for X-axis: EN, MEV, Linear.	Notes:
	3. Click the <b>Input</b> button in group box <b><u>Active X Axes</u></b> to set X-axis.	
	4. In group box <u>Name+Color</u> edit axis's name and color, if necessary.	
-	Use drop-down lists to select the required color.	
	5. To set the direction of X-axis click the <b>Input</b> button in group box <b>Setting of X Axis</b> .	
	6. Click the right mouse button on the beginning of X-axis to magnify the image of the selected area (window of <b>Magnifier</b> mode) and then click the left mouse button to mark the beginning of X-axis.	
⊞	7. Repeat the action from item 6 to mark the end of X-axis.	
	Exercise 5: Setting of ticks on X-axis.	
	Procedure 1	
	1. In the <u>Setting of Ticks</u> group box select the mode of automatic input of ticks. To do this, activate the <b>Automatic</b> flag	
	Setting of Ticks	
	First Last	
	Value:15 25	
	Input v In212 Ineas Delete	
	A: Insaa Insae	
	Tick Number: 4 🚺 Calc	
	(Exclude first and last ticks)	
	2 Click the <b>Input</b> button and then click the right mouse button on the	
	first tick of X-axis. Set its exact position in the mode "Magnifier" using	
	the left mouse button.	
	-X Maximum Value	
	X Minimum Value     X Minimum Value       1.5     OK Cancel	
	1,5 1,7 2,5	
	3. Enter the corresponding numeric value in the <u>X Minimum Value</u> field.	
	4. Repeat the actions 2 and 3 for the last tick.	
	5. In the <b>Tick Number</b> field set the number of ticks on X-axis	
	between minimal and maximal values.	
	6. Click the <u>Calc</u> button.	

Yellow •

Yellow Silver Red Lime Yellow Blue Fuchsia Aqua White

	Procedure 2	Notes:
	1. The mode of manual input of ticks is a default mode.	1101051
	2. Activate the <b>Auto Increm</b> flag in group box <b>Setting of Ticks</b> .	
	3 Set the type of tick increment: adding (for linear scale) or multiplying	
	(for logarithmic scale). Set the increment value in the input field.	
	In the present example select adding (set flag +) and enter the value $0.2$ .	
	Setting of Ticks	
	1.7 0346 0899	
	1.9 0485 0898	
	2.3 0760 0897	
	2.5 0897 0895	
	4 Click the visht many better on the first tick of V anis Mark its speet	
	4. Click the right mouse button on the first tick of A-axis. Mark its exact position in the mode "Magnifier" using the left mouse button. Set the	
	appropriate numeric value	
	5 Set positions of all ticks on X axis and corresponding numeric values	
	according to item 3	
Delete	Use the <b><u>Delete</u></b> button to delete the selected tick.	
Sort	Use the $\underline{Sort}$ button to sort tick values on ascending order.	
Check	Use the <u>Check</u> button to check the tick values correct.	
	Axis Scale is OK	
	Quantization Error	
Clear	Use the <b>Clear</b> button to clear the table with ticks.	

Exercise 6: Setting of ticks on Y-axis	Notes:
1. Select the Axes YAxis bookmark	
2. Repeat the actions mentioned in the exercises 4 и 5 for X-axis.	
Entry + Variables Axes Curves	
XAxis XAxis	
Y Axis	
Heading : DATA	
Units : ARB-UNITS	
Scale: Linear 💌	
Active Y Axes	
Y Axis 2	
Y Axis 3	
Y AXIS 4	
Y Axis 4	
Setting of Y Axis	
Start End [Input] X: 0192 0189 [Delete]	
Y: 0312 0043	
Setting of Ticks	
Auto Increm 💿 + 🕤 🗙 0.4	
Input Delete Sort Check Clear	
Value X Y	
0.4 0192 0226 0.8 0190 0141	
1.2 0190 0057	
Note, for the given plot four Y-axes should be set. For this p	ourpose
repeat four times the actions 3-7 from the exercise 4 and a	ll items
from the exercise 5.	
Exercise 7: Digitizing of curves	
1 Select the <b>Curves</b> bookmark	
2. Click the <b>Input</b> button in group box <b>Curve List</b> to enter inform	nation
regarding the new curve.	
3. In the <u>Name+Color</u> group box edit the name of the curve and	its
color, if necessary.	-
4. In the <u>Additional Independent Variables</u> group box enter nurvely solved additional independent variables for the selected curve	meric
For the 1-st curve enter the value of 0.75 for variable F and	150 for
variable ANG.	
5. In the Axes group box select X-axis and Y-axis from drop-dov	/n lists.

Notes:

	Entry + Variables	Axes Curves		
r	-Curve List	,		
	Input	Delete		
	FIG			
ļ	N 01			
[	Name+Color		-	
-	-Additional Indona			
	F-I VI MEV	0.75	_	
		150	-	
	ANG, ADEG	150		
[	-Axes	X Avie 1	-	
	DATA ARB-UNITS	3: Y Axis 1	<b>_</b>	
	Symmetric Erro	)r		
	Point	Err X Err	Y	
	ErrMass Y ErrM	ass XY Min Ma	x	
	Data Table			
	Point Error			
	0634.0737	0633.0723		
	0649 0721	0649 0709		
	0668 0724	0668 0711		
	0685 0740	0686 0728		
	0703 0753	0704 0740		
	07200754	0721 0742		
	0753 0761	0753 0748		
	0771 0745	0771 0731		
	0790 0739	0790 0726		
	0807 0741	0808 0728		
	0824 0742	0824 0729		
	0840 0765	0841 0751		
	0858 0777	0859 0764		
	10020 0954			
	Delete Delete Err	X Delete ErrY C	lear	
Ī	E	Back		
			1 1 1 1	
For the 1-st curve s	set the followin	g exes: X Axis	$\mathbf{I}$ and $\mathbf{Y}$	Axis I.
6. Define the type of	of errors on a p	lot: symmetric	or unsy	mmetric.
(Select or deselect of	check box <u>Sym</u>	metric Error	<u>')</u> .	
Note, error type i can not be change	s set at the b d during the p	eginning of c rocess.	urve dig	gitizing only. It
For the 1-st curve <u>Error</u> .	set symmetric	errors – sele	ct check	box <u>Symmetric</u>

7. Click the **<u>ErrMassY</u>** button to facilitate digitizing process.

8. Click the right mouse button on the first point of a curve. Mark the exact point center in window "Magnifier" using the left mouse button.9. Click the right mouse button on the upper error bar of the first point. Mark its exact position in the window "Magnifier" using the left mouse button.



10. Repeat the actions 8 and 9 for all points of the curve.

11. Digitize other three curves of the plot repeating the actions 2-11 for each curve.

Note, you may interrupt digitizing process at any stage. To do this save changes in the Project file using the <u>Save</u> button on the toolbar or the <u>Files ► Save Project</u> menu item, and close program InpGraph.

Table 1 -	- Function	of buttons	used at	digitizing
				0 0

Button	Function
Input mode for	· symmetric errors
Point	Input of points. Click again to cancel the mode.
Err X	Input of errors on X-axis. Mode is canceled automatically after entering.
Err Y	Input of errors on Y-axis. Mode is canceled automatically after entering.
ErrMass Y	Input of array of points and errors on Y-axis. After entering a point an error on Y-axis should be entered next. Click again to cancel the mode.

# Notes:

Y

Save

Button	Function	Notes:
ErrMass XY	Input of array of points and errors on X and Y axes. After entering a point the errors on X-axis and then on Y-axis are entered on the spot. Click again to cancel the mode.	
Min Max	Input of array of points including minimal and maximal error values on Y-axis. Click again to cancel the mode.	
Delete	Deletion of the selected point with its errors.	
Delete ErrX	Deletion of error on X-axis only.	
Delete ErrY	Deletion of error on X-axis only.	
Clear	Deletion of all points and errors.	
Input mode for	unsymmetric errors	
Point	Input of points. Click again to cancel the mode.	
Err X-/+	Input of unsymmetric errors on X-axis. First the minimal value is entered and then the maximal one. Mode is canceled automatically after entering.	
Err Y-/+	Input of unsymmetric errors on Y-axis. First the minimal value is entered and then the maximal one. Mode is canceled automatically after entering.	
ErrMass Y -/+	Input of array of points and unsymmetric errors on Y- axis. After entering a point the errors on Y-axis are entered on the spot: first - minimal value, then maximal value. Click again to cancel the mode.	
ErrMass XY -/+	Input of array of points and unsymmetric errors on X and Y axes. After entering a point the errors on X and Y axes are entered on the spot: first - minimal and maximal values on X-axis then minimal and maximal values on Y-axis. Click again to cancel the mode.	



### CNPD, RFNC-VNIIEF

It is recommended to set a maximal number of ticks for each axis to Notes: increase the accuracy of digitization. 😸 Diagnostic Messages × -Warning List-Y Axis 1: Only two ticks - low accuracy! Y Axis 2: Only two ticks - low accuracy! Y Axis 3: Only two ticks - low accuracy! Continue Break 3. In a dialogue window with the results of compilation pay attention to the table of quantization errors that appear due to the image discretization. Specify these values in error description, if necessary (keyword ERR-ANALYS). 4. Click the **Save** button to save changes in Exfor file.

Notes:

# Numeric data treatment in EXFOR format

Arrange the format of numeric data in accordance with the rules of Exfor library.

EXFOR File					_	EXFORF	le					
DATA	4 <u>CO</u>	MMON (SUB	ENT 2)			D	ATA	COMMON (	SUBENT	2)		
DATA	ANC.	5	138	DATA FOD	-	DATA	ANG	5	137	DATA	DATA FDD	-
MEV	ADEG	MEV	ARB-UNITS	ARB-UNITS		MEV	ADEG	MEV		ARB-UNITS	ARB-UNITS	
0.75000	150.00	1.8257	0.10599	0.28239E-01			0.	30.	1.4987	0.1362	0.06587	
0.75000	150.00	1.8490	0.94159E-0	010.28230E-01	10		0.	30.	1.5264	0.1549	0.05176	i land
0.75000	150.00	1.8737	0.10585	0.28230E-01			0.	30.	1.5497	0.1547	0.05176	
0.75000	150.00	1.9233	0.14334	0.28235E-01			0.	30.	1.5773	0.1686	0.05176	
0.75000	150.00	1.9495	0.16444	0.32940E-01			0.	30.	1.6006	0.19200	0.04707	
0.75000	150.00	1.9743	0.18318	0.32940E-01			R.	30.	1.6225	0.2106	0.05645	
0.75000	150.00	1.9990	0.20899	9-28235E-01				30.	1.6487	0.2104	0.05646	
0.75000	150.00	2.0223	0.21362	¢			)	30.	1.6734	0.2102	0.05176	
0.75000	150.00	2.0485	0.20884	4			_ /	30.	1.6982	0.2100	0.05647	
0.75000	150.00	2.0718	0.18994	0.32940E-01			1	30.	1.7229	0.2052	0.06117	
0.75000	150.00	2.0980	0.22515	0.30588E-01			0.	30.	1.7506	0.2097	0.05646	
0.75000	150.00	2.1257	0.24154	0.30588E-01			0.	30.	1.7739	0.2142:	0.05647	
0.75000	150.00	2.1505	0.29322	0.23533E-01			0.	30.	1.7986	0.2516	0.05176	
0.75000	150.00	2.1738	0.31668	0.32945E-01			0.	30.	1.8234	0.2891	0.05646	
0.75000	150.00	2.1957	0.35426	0.28235E-01			0.	30.	1.8496	0.3077	0.05647	
0.75000	150.00	z.2233	0.34712	0.30588E-01			0.	30.	1.8744	0.3405	0.05647	
0.75000	150.00	2.2480	0.30939	0.28230E-01			0.	30.	1.9006	0.3544	0.05646	
0.75000	150.00	2.2742	0.27873	0.30583E-01			0.	30.	1.9253	0.3730	0.05178	
0.75000	150.00	2.2990	0.27630	0.28230E-01	-		0.	30.	1.9472	0.3682	0.05175	-
<b>A</b>						C.						× Č

### **Exercise 9: Data section treatment within DataTable mode**

# 1. Click the **<u>DATA</u>** button in group box **<u>EXFOR File</u>**.

👷 Data Table								
Selected Column: 1 Selected Row: 1						DATA		
	E-LVL	ANG	EN	DATA	DATA-ERR		Import	Sort
	MEV	ADEG	MEV	ARB-UNITS	ARB-UNITS		Paste	Chart
1	0.75000	150.00	1.8257	0.10599	0.28239E-01		Clear	Check
2	0.75000	150.00	1.8490	0.94159E-01	0.28230E-01		-Column	
3	0.75000	150.00	1.8737	0.10585	0.28230E-01		Add	Insert
4	0.75000	150.00	1.9233	0.14334	0.28235E-01		Сору	Delete
5	0.75000	150.00	1.9495	0.16444	0.32940E-01		Ber	ame
6	0.75000	150.00	1.9743	0.18318	0.32940E-01		Move Lett	Move Right
7	0.75000	150.00	1.9990	0.20899	0.28235E-01			Interne 1
8	0.75000	150.00	2.0223	0.21362	0.30583E-01			lations
9	0.75000	150.00	2.0485	0.20884	0.25882E-01		Set	Value
10	0.75000	150.00	2.0718	0.18994	0.32940E-01		Set Pr	ecision
11	0.75000	150.00	2.0980	0.22515	0.30588E-01		Row	
12	0.75000	150.00	2.1257	0.24154	0.30588E-01		Add	Insert
13	0.75000	150.00	2.1505	0.29322	0.23533E-01		Сору	Delete
14	0.75000	150.00	2.1738	0.31668	0.32945E-01		Movelln	Move Down
15	0.75000	150.00	2.1957	0.35426	0.28235E-01		llado	
16	0.75000	150.00	2.2233	0.34712	0.30588E-01		Undola	et Action
17	0.75000	150.00	2.2480	0.30939	0.28230E-01			oracion
18	0.75000	150.00	2.2742	0.27873	0.30583E-01		-Table	
19	0.75000	150.00	2.2990	0.27630	0.28230E-01		Precision	Clear
20	0.75000	150.00	2.3237	0.25034	0.28230E-01		Export	Check
21	0.75000	150.00	2.3470	0.25968	0.30588E-01		Clear Che	ck Results
22	0.75000	150.00	2.3732	0.29724	0.32940E-01		-	
23	0.75000	150.00	2.4009	0.31128	0.30588E-01	-	Save	Cancel
1 20	•	1	1	1	1		1	

2. Sort numeric data in a table by three columns. Click the <u>Sort</u> button in group box <u>Data</u> . Notes:								
3. Select key columns for sorting from drop-down lists.								
5. Select Key	y column Cho Prii E Se A Las	Sort Sose Table C mary Sort Key -LVL condary Sort NG st Sort Key N	Columns to So V Key	rt ок Сапсе				
🎇 Data Table								
Selected Column: 1	Selecte	d Row: 2				DATA		
E-LVL	ANG	EN	DATA	DATA-ERR		Import	Sort	
MEV	ADEG	MEV	ARB-UNITS	ARB-UNITS		Paste	Chart	
1 0.0000	30.000	1.5019	0.13369	0.56771E-01		Clear	Check	
2 0.0000	30.000	1.5296	0.14735	0.52095E-01		Column		
3 0.0000	30.000	1.5544	0.14687	0.47362E-01		Add	Insert	
4 0.0000	30.000	1.5792	0.16059	0.52066E-01		Сору	Delete	
5 0.0000	30.000	1.6040	0.17904	0.52095E-01		Rei	name	
6 0.0000	30.000	1.6273	0.20225	0.61561E-01		Move Left	Move Right	
7 0.0000	30.000	1.6521	0.20177	0.52066E-01		Calc	ulations	
8 0.0000	30.000	1.6754	0.19658	0.61533E-01			Value	
9 0.0000	30.000	1.7017	0.20080	0.52066E-01		Set	value	
10 0.0000	30.000	1.7264	0.19559	0.66266E-01		Set P	recision	
11 0.0000	30.000	1.7541	0.19978	0.56828E-01		Row		
12 0.0000	30.000	1.7760	0.20409	0.56799E-01		Add	Insert	
13 0.0000	30.000	1.8023	0.23671	0.61561E-01		Сору	Delete	
14 0.0000	30.000	1.8271	0.27883	0.61533E-01		Move Up	Move Down	
15 0.0000	30.000	1.8519	0.29728	0.61505E-01				
16 0.0000	30.000	1.8782	0.32990	0.56800E-01		Undo La	ast Action	
17 0.0000	30.000	1.9030	0.34362	0.52066E-01	1			
18 0.0000	30.000	1.9278	0.36207	0.47361E-01		Draginian	Clear	
19 0.0000	30.000	1.9512	0.36161	0.47333E-01		FIELISION		
20 0.0000	30.000	1.9774	0.35637	0.61561E-01		Export	Check	
21 0.0000	30.000	2.0021	0.33222	0.61533E-01		Clear Che	ck Results	
22 0.0000	30.000	2.0270	0.36961	0.56828E-01		Save	Cancel	
23 0.0000	30.000	2.0504	0.41648	0.47333E-01	-			
<ul> <li>4. Set the ac Select colum group box <u>C</u></li> <li>5. Activate t Format.</li> </ul>	ccuracy of nn <b>E-LV</b> Column. the <u>Eras</u>	of data pres L in data e Trailing	sentation in table and c <u>z <b>Zero</b> flag</u>	n accordan lick the <u>Se</u> in group b	ce w et P	vith Exf recision Fixed F	for rules. <u>1</u> button in <u>Point</u>	

Prescision for column E-LVL       ×         Number Format       OK         ⓒ Fixed Point Format       Cancel         Fixed Point Format       Cancel         Fixed Point Format       Cancel         Number of Digits after Decimal Point.       5         ✓ Erase Trailing Zero       ×         Example:       1.00001	Prescision for column DATA       ▼         Number Format       OK         © Fixed Point Format       Cancel         Fixed Point Format       Cancel         Fixed Point Format       Cancel         Number of Digits after Decimal Point:       5         © Erase Trailing Zero       ▼         Example:       1.00001	Notes:
6. Repeat the actions 4 and 5 for colu	umn <b>ANG</b> .	
<ol> <li>Select the Fixed Point Format for the DATA-ERR, as it is more appro- precision for both columns.</li> <li>Select the DATA column in the da button in group box <u>Column</u>. Activa <u>Format</u> in group box <u>Number Form</u> digits after decimal point in field <u>Nu</u> <u>Point</u> in group box <u>Fixed Point Form</u></li> <li>Repeat the action 8 for the DATA</li> </ol>	or columns <b>DATA</b> and priate in this case. Set the same data ata table and click the <u>Set Precision</u> ate a flag in position <u>Fixed Point</u> <u>nat</u> . Set the necessary number of <u>umber of Digits after Decimal</u> <u>mat</u> . -ERR column.	
Exercise 10: Check of numeric dat	a	
<ol> <li>Check numeric data on coincident Click the <u>Check</u> button in group box</li> <li>Select columns with independent</li> </ol>	ce over all independent variables. x <u><b>Table</b></u> . variables from drop-down lists to	
check on value coincidence.		
Select Independent Variables for Checking Additional Independent Variables Parameter 1 Cancel Parameter 2 ANG Abscissa axis EN Correct data and repeat check if r	INFORMATION X No equal values were found. OK	
5. Context data and repeat check, II f	bio procentation. Click the Chart	
4. Check data correctness using grap	onic presentation. Click the <b><u>Chart</u></b>	
oution in group oox <b>Data</b> .		

Data Chart		
Options Chart		Notes:
Invariable Parameters		
Parameter 1 Parameter 2		
E-LVL ANG		
Abscissa Axis		
X-value Error Type	Error	
EN 💽 © Symmetric O Unsym	metric	
Ordinate Axis		
Y-value Error Type	Error	
DATA 🖸 © Symmetric O Unsym	metric DATA-ERR	
<ol> <li>In the <u>Options</u> bookmark select the column independent variables from drop-down lists: f <u>Parameter2</u> in group box <u>Invariable Param</u> ANG, correspondingly).</li> <li>Select X-axis column in the <u>X-value</u> drop- <u>Abscissa Axis</u> (column EN).</li> <li>Select Y-axis column in the <u>Y-value</u> drop- <u>Ordinate Axis</u> (column DATA). Activate the box <u>ErrorType</u>. Select column with data error DATA-ERR).</li> <li>Go to the <u>Chart</u> bookmark.</li> </ol>	ns of additional fields <u>Parameter1</u> and <u>eters</u> (columns E and down list of group box <u>box</u> e <u>Symmetric</u> flag in group ors in field <u>Error</u> (column	
9. Activate the <b>Multiple Axes</b> flag in group b	ox <u>Left Axis Type</u> .	
10. Check the correctness of digitizing proceed	lure taking into account	
statistic information in group box Statistic In	<u>formation</u> .	
Data Chart	×	
	Exit         Image: Elvic 0; ANG: 30.         Image: Elvic 0; ANG: 150.         Image: Elvic 0; ANG: 150.         Image: Elvic 0; Fands: 30.         Image: Elvic 0; Fands: 30.<	
0.1 0.2 0.35 0.25 0.25 0.25 0.15 0.15 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5	First Point: 1.499, 0.136 Last Point: 2.496, 0.571 Number of values: 41 Maximum value: 1.204 at position 29 Minimum value: 0.136 at position 0 Range: 1.068	
Scale       Marker Position       Logarithmic Y Scale       Left Axis Type         Value X:1.998       Logarithmic X Scale       Single Axis         Value Y:0.577       Show Value       Multiple Axes	Change Axes Scale Export	
Don't forget to click the <u>Save</u> button in closing the DataTable mode.	group box <u>Table</u> when	

Exercise 11. Treatme	Notes:				
1. Click the COMM					
2. Select each column					
precision with the <b>Pre</b>	ecision button.				
EN-ERR-DIG ERR-DIG MEV ARB-UNITS	International Control Percentation     Prived Point Format     Control Percentation     Control Percentation     Control Percentation     Control Percentation     Control Percentation				
10.10895E-02 0.147/1E-02 Column Add Insert Copy Delete	Save Number of Digits after Decir				
Rename Precision Move Left Move Right	Cancel 5 Rename Precision Move Left Move Right Cance	·			
Don't forget to click	<b>x</b> the Save button to save changes in Exfor fi	le			
when closing window	v <u>Processing Results</u> .				
Table 2 – Function	of buttons used to work with DataTable mode				
Button	Function				
Group box <u>DATA</u>					
Import	Import of data table from text, Microsoft Word				
	or Microsoft Excel files.				
Paste	Import of data table from Paste buffer.				
Clear	Deletion of all rows and columns containing				
Sort	Sort of table rows on columns.				
Chart	Graphic presentation of numeric data.				
Check	Check of numeric data correctness.				
Group box <u>Column</u>					
Add	Addition of an empty column to the end of the table.				
Сору	Insertion of an empty column near the selected one and copying of its content to a new column.				
Insert	Insertion of an empty column near the selected one.				
Delete	Deletion of the selected column.				
Rename	Renaming of the selected column.				
Move Left	Left shift of the selected column.				

Button	Function	Notes:
Move Right	Right shift of the selected column.	
Calculations	Mathematical operations with columns.	
Set Value	Filling in a column with a specified numeric value.	
Set Precision	Setting of data precision of a selected column.	
Group box <u>Column</u>		
Add	Addition of an empty row to the end of the table.	
Сору	Insertion of an empty row near the selected one and copying of its content to the new row.	
Insert	Insertion of an empty row near the selected one.	
Delete	Deletion of the selected row.	
Move Up	Shift up of the selected row.	
Move Down	Shift down of the selected row.	
Group box <u>Undo</u>		
Undo Last Action	Cancel of the last procedure on editing the data table.	
Group box <u><b>Table</b></u>		
Precision	Setting of data precision for all columns.	
Export	Export of data table from text, Microsoft Word or Microsoft Excel files.	
Clear	Total clearing of a table.	
Check	Check of the table numeric values on independent variable coincidence.	
Clear Check Results	Deletion of the check results on independent variable coincidence.	
Save	Write-in of data table into the Exfor file.	
Cancel	Exit from DataTable mode without saving the changes.	

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### Table 3 – Function of buttons used to work with COMMON section

ButtonFunctionAddAddition of an empty column to the end of the table.InsertInsertion of an empty column near the selected one.CopyInsertion of an empty column near the selected one and copying of its content to the new column.DeleteDeletion of the selected column.RenameRenaming of the selected column.PrecisionSetting of data precision of the selected column.		ender of buttons used to work with contribut sector	Notes:
AddAddition of an empty column to the end of the table.InsertInsertion of an empty column near the selected one.CopyInsertion of an empty column near the selected one and copying of its content to the new column.DeleteDeletion of the selected column.RenameRenaming of the selected column.PrecisionSetting of data precision of the selected column.	Button	Function	
InsertInsertion of an empty column near the selected one.CopyInsertion of an empty column near the selected one and copying of its content to the new column.DeleteDeletion of the selected column.RenameRenaming of the selected column.PrecisionSetting of data precision of the selected column.	Add	Addition of an empty column to the end of the table.	
Copy       Insertion of an empty column near the selected one and copying of its content to the new column.         Delete       Deletion of the selected column.         Rename       Renaming of the selected column.         Precision       Setting of data precision of the selected column.	Insert	Insertion of an empty column near the selected one.	
Delete       Deletion of the selected column.         Rename       Renaming of the selected column.         Precision       Setting of data precision of the selected column.	Сору	Insertion of an empty column near the selected one and copying of its content to the new column.	
Rename       Renaming of the selected column.         Precision       Setting of data precision of the selected column.	Delete	Deletion of the selected column.	
Precision Setting of data precision of the selected column.	Rename	Renaming of the selected column.	
	Precision	Setting of data precision of the selected column.	
Move Left Shift left of the selected column.	Move Left	Shift left of the selected column.	
Move Right Shift right of the selected column.	Mo∨e Right	Shift right of the selected column.	
Save Write-in of COMMON section into the Exfor file.	Save	Write-in of COMMON section into the Exfor file.	
Cancel         Exit from Editing mode of COMMON section without saving the changes.	Cancel	Exit from Editing mode of COMMON section without saving the changes.	