New Dislin Features since Version 11.0

This article describes new features and options of Dislin which are added to the software since version 11.0 and not covered by the current Dislin book version 11. The current version number of Dislin is 11.1.2

Chapter 5: Plotting Curves

L I N F I T

LINFIT plots a straight line that has the best fit to a series of data points.

The call is:	CALL LINFIT (XRAY, YRAY, N, A, B, R, COPT)	level 2, 3
or:	void linfit (const float *xray, const float yray, int n, float *a, float *b, float *r, const char *copt);	
XRAY, YRAY	are arrays that contain X- and Y-coordinates.	
N	the number of data points.	
A, B	are the returned values of the calculated line Y = A * X + B.	
R	is the returned correlation coefficient of the fit between -1.0 and 1.0. A value around zero means no correlation, a value near -1.0 or 1.0 means good correlation.	
COPT	is a character string that can have the values 'NONE', 'ALL' and 'LINE'. 'NONE' means that just the values A, B and R are calculated. Nothing is plotted. For that case LINFIT can also be called in the levels 0 and 1. 'LINE' means that the straight line is plotted and 'ALL' that the straight line and the data points are plotted.	

Chapter 6: Parameter Setting Routines

The following mathematical symbols are added to the LaTeX symbols:

\approx	\leqslant	\qeqslant	\nless	\ngtr	\nleq	\ngeq
\nlegslant	\ngeqslant	\prec	\succ	\nprec	\nsucc	\preceq
\succeq	\npreceq	\nsucceq	\ll	\gg	\lll	
\ggg	\nsubseteq	\nsupseteq	\sqsubset	\sqsupset	\sqsubseteq	
\sqsupseteq	\doteq	\simeq	\propto	\angle	\measuredangle	
\circ	\sphericalangle					

Chapter 9: Utility Routines

C S R P O L

CSRPOL is a similar routine to CSRPTS. It returns an array of mouse positions, where help lines are plotted between the points. CSRPOL is waiting for mouse button 1 clicks and terminates if mouse button 2 is pressed.

The call is:	CALL CSRPOL (NXRAY, NYRAY, NMAX, N, IRET)	level 1, 2, 3

or:	void csrpol (int *nxray, int *nyray, int nmax, int *n, int *iret);
NXRAY, NYRAY	are the returned coordinates of the collected mouse positions.
NMAX	is the dimension of NXRAY and NYRAY and defines the maximal number of points that will be stored in NXRAY and NYRAY.
N	is the number of points that are returned in NXRAY and NYRAY.
IRET	is a returned status. IRET not equal 0 means that not all mouse movements could be stored in NXRAY and NYRAY.

Chapter 12: 3-D Graphics

G R F I M G

The routine GRFIMG includes a PNG, BMP, TIFF or GIF file into a 3-D plane defined by GRFINI. This routine can only be used if the output format is a raster format (screen or image file).

The call is:	CALL GRFIMG (CFIL)	level 1, 2, 3
or:	void grfimg (char *cfil);	
CFIL	is a character string that contains the filename.	

Chapter 14: Contouring

C O N T U R 2

The routine CONTUR2 calculates and plots contours of the function Z = F(X,Y), where the functions values are located on a curvilinear grid.

The call is:	CALL CONTUR2 (XMAT, YMAT, ZMAT, N, M, ZLEV) level 2, 3
or:	void contur2 (const float *xmat, const float *ymat, const float *zmat, int n, int m, float zlev);
XMAT	is a matrix of the dimension (N, M) containing the X-coordinates of the curvilinear grid.
YMAT	is a matrix of the dimension (N, M) containing the Y-coordinates of the curvilinear grid.
ZMAT	is a matrix of the dimension (N, M) containing function values.
N, M	define the dimension of XMAT, YMAT and ZMAT.
ZLEV	is a function value that defines the contour line to be calculated. ZLEV can be used for labels.

C O N S H D 2

The routine CONSHD2 plots filled contours of the function Z = F(X,Y), where the functions values are located on a curvilinear grid.

The call is:	CALL CONSHD2 (XMAT, YMAT, ZMAT, N, M, ZLVRAY, NLV) level 2, 3
or:	void conshd2 (const float *xmat, const float *ymat, const float *zmat, int n, int m, const float *zlvray, int nlv);

XMAT	is a matrix of the dimension (N, M) containing the X-coordinates of the curvilinear grid.
YMAT	is a matrix of the dimension (N, M) containing the Y-coordinates of the curvilinear grid.
ZMAT	is a matrix of the dimension (N, M) containing function values.
N, M	define the dimension of XMAT, YMAT and ZMAT.
ZLVRAY	is an array containing the levels. For polygon filling, the levels should be sorted in such a way that inner contours are plotted last.
NLV	is the number of levels.