SPLINT

SPLINT returns a natural spline interpolated value in two or more dimensions

Syntax

1. SPLINT(Pno%, Ndim%, "ColLab$_1",.., "ColLab$_Ndim%", Xint_1,..,Xint_Ndim%-1, [Xtrap%=0,1])
2. SPLINT(0, Npoints%, x_1, y_1, x_2, y_2,..., x_n, y_n, xint, [Xtrap%=0,1])
3. SPLINT(@ObjFn(..), Ndim%, @ObjColPar_1,.., @ObjColPar_Ndim%, Xint_1,..,Xint_Ndim%-1, [Xtrap%=0,1])
4. SPLINT(Telitab$, Ndim%, "ColLab$_1",.., "ColLab$_Ndim%", Xint_1,..,Xint_Ndim%-1, [Xtrap%=0,1])

Arguments

- Pno% is the number that refers to the TeLiTab sets in the Data slot. Pno% should be an integer value or a parameter which is assigned an integer value and is the number of the TeLiTab set in the expressions' data slot.
- Npoints% is the number of points (x,y) that are given in direct definition.
- @ObjFn() refers to the Object from which data will be used.
- TeLiTab$ refers to the string parameter that contains the TeLiTab.
- Ndim% is the number of dimensions.
- "ColLab$_1" and @ObjColPar_1 refer to the column that will be used as the parameter X in the interpolation.
- "ColLab$_2" and @ObjColPar_2 refer to the column that will be used as the parameter Y in the interpolation. etc.
- Xint is the parameter to do interpolation on.
- Xtrap% is an optional argument by which can be indicated that in the event of extrapolation, so when the value/vector to be interpolated on is outside the data range, the system issues a warning or not. If Xtrap% is not provided in the function or is given the value zero, such warnings will be given. By providing Xtrap%=1 these warnings will be suppressed.

Remarks

1. See also Telitab access for a generic description on the use of TeLiTab data
2. Similar to other Data analysis functions, the SPLINT is a convenient way to evaluate data. Please also look at these functions for syntax examples.
3. The routine contains a cubic spline interpolator. A spline is a curve from which the second derivative is a continuous function. The spline interpolated is a natural spline with zero second derivatives at both ends. Extrapolation outside the x-range is performed parabolic.
4. Please realise the dataset provided to SPLINT should be a function. Every x-value should have one y-value. When you do not have a valid dataset, please look at GAUSSINT() or LEASQ()

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