

Planar Angles

This page is outdated - for more information about this command, please see [here](#).

Compute_Planar_Angle

This function computes a planar angle between three points as diagramed in the first dialog below, or four points as diagramed in the second dialog below. The location of the points displayed corresponds to the combo boxes containing the signal.

It is possible to compute a 3D angle, or to project the vectors onto one of the principal planes. If the user wants to project onto an arbitrary plane, transform the points into another coordinate system then project onto one of the principal planes of this new coordinate system.

The user can select to use a Right Hand or Left Hand Rule to define the sign of the angle.

The user can select the range 0 - 360 degrees or -180 to 180 degrees.

3D angles can only be computed to 0 - 180 degrees unless a normal vector is specified.

Compute_Planar_Angle /SIGNAL_TYPES=The type of signal to be processed ! /SIGNAL_NAMES=The names of the signals to be processed ! /SIGNAL_FOLDER=The name of the signal folder /RESULT_NAME=The name of the resulting signal. ! /RESULT_FOLDER=The name of the resulting folder. ! /COMPUTE_3PT_ANGLE= {TRUE=3PT, FLASE=4PT} ! /NORMALX= The normal vector to the 3D angle ! /NORMALY= ! /NORMALZ= ! /REFERENCE_SEGMENT=LAB ! /PROJECTION_PLANE=XY ! /USE_RIGHT_HAND_RULE=TRUE ! /USE_0_TO_360_DEGREES=TRUE ;

Compute the angle between two vectors, represented by 3 or 4 points

Resulting Signal

Name

Folder

PROCESSED

1

2

3

1

2

3

Specify 3 or 4 points

☒ 3 Point

☐ 4 Point

Angle Direction

☒ Right Hand Rule

☐ Left Hand Rule

Use Range

☒ 0 to 360 degrees

☐ -180 to 180 degrees

Projected onto Plane

☒ XY

☐ XZ

☐ YZ

If the angle is projected onto one of the principle planes, the direction of the normal to the two vectors is the third principle axes. The Right Hand Rule and the Range are with respect to this normal.

3D Space

☐ 3D

Always 0 to 180 degrees (Unspecified Direction)

☐ 3D

Specify a Vector Normal to the Two Vectors

Example

With respect to the figure. Assume the two vectors lie in the XY plane; Rotation is about the Z-axis.

3D: Angle = 95 degrees

Projected onto XY: Use RHR: Use 0- to 360: Angle=265 degrees

Projected onto XY: Use RHR: Use -180 to 180: Angle=-95 degrees

Cancel

OK

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