AHELP for CIAO 3.4 **surface** Context: chips

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Synopsis

Adds a surface plot to a drawing area.

Syntax

```
chips> [D #] SURFACE <filename>[<virtual_file_syntax>] <zmin> <zmax>
```

Description

```
Argument: D #
Description: drawing area number designation
Options: integer numbers
Default: current drawing area
```

See the D command for more information about this argument.

```
Argument: <filename>
Description: name of datafile and path, if necessary.  If the file
            contains tabulated data, it must be sorted with row
            precedence (see below).  May be filtered data from a
            FITS image file, as shown in the EXAMPLES.
```

```
Argument: <virtual_file_syntax>
Description: A filtering and/or binning command argument.  The
            <virtual_file_syntax> must be surrounded by
            quotes (" ").
```

See the CURVE command for more information on this argument.

```
Argument: <zmin>
Description: minimum Z-axis value
Options: real numbers
```

```
Argument: <zmax>
Description: maximum Z-axis value
Options: real numbers
```

Surface are considered variants of curves, and therefore the attributes of contours (color, linestyle, scale, width) may be changed in the same manner. However, the limits of the x and y axes in a surface plot cannot be modified.

The VIEWPOINT command has information on controlling the rotation angle of a surface plot.

SORTING THE INPUT DATA

The input data file must be sorted with row precedence. For example, the following data:

```
1 1 1
2 1 -4.97206e-24
3 1 2
4 1 1
5 1 2
1 2 -6.79138e-24
2 2 -2.23247e-23
3 2 1
4 2 -2.1879e-22
5 2 1
```

Would have to be re−ordered for use in ChIPS:

```
1 1 1
1 2 -6.79138e-24
2 1 -4.97206e-24
2 2 -2.23247e-23
3 1 2
3 2 1
4 1 1
4 2 -2.1879e-22
5 1 2
5 2 1
```

Example 1

```
chips> SURFACE data/example3D.sorted.dat 0.0 10.0
```

The ASCII data file data/example3D.sorted.dat is plotted as a surface, where the minimum Z−axis value is 0.0 and the maximum Z−axis value is 10.0.

Example 2

```
chips> SURFACE data/exampleImage.fits[10:100,10:100] 0.0 10.0
```

A surface plot is created from the data in the FITS file which falls into the specified ranges. Again, the minimum Z−axis value is 0.0 and the maximum Z−axis value is 10.0.

Example 3

```
chips> CLEAR
chips> SURFACE "data/example3D.sorted.fits[cols col1, col2, col3]"
          0.0 10.0
```

The data in columns col1, col2, and col3 of data/example3D.sorted.fits are plotted as a surface plot.

Example 4

```
chips> SURFACE s3_img.fits 20 30
```

A surface plot is created from the filtered data stored in "s3_img.fits".

Bugs

See the bugs page for ChIPS on the CIAO website for an up−to−date listing of known bugs.

See Also

chips

contour, curve, display, viewpoint

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URL:
http://cxc.harvard.edu/ciao3.4/surface.html
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Example 4 3

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