

Documentation of the EightPoints command interface Cmd

All hidden parameters of the EightPoints program can be influenced via the Cmd input field. Use requires knowledge of the variable names used in the program. In principle, you can even reach the variables already visible in the control panel. However, influencing via cmd makes little sense for those, since doing normal input triggers specific actions. Therefore, the change of the visible parameters via Cmd is automatically prevented. However, it is still possible to query these values.

There are two basic types of commands:

1. Query a value

The query is initiated by a question mark.

Example: **?s01** returns the value of the variable s01 in the form **s01 = Value**

This form can also be used to set a value.

Hint: The charges **qi**, $i = 0$ to 7 are internally defined as an array $q[i]$

2. Setting a value

needs the form of an equation and represents an assignment.

Example: **s01 = Value**

The use of spaces is not critical.

Hint: The parameters **sij**, **eij**, **kij**, **tStop**, **vor**, **zoom** and **a** can be set!

Meaning of the hidden parameters

The parameters **eij**, $i, j = 0$ to 7 limit the maximum distance between the points of the pair (r_i, r_j) .

The parameters **sij**, $i, j = 0$ to 7 determine the distance of the parallels on which the antiparallel displacement vectors of the pair (r_i, r_j) are located (see Hövel's documentation).

Hint: Only the values **sij** > 0 and **eij** \geq **sij** do make sense.

The parameters **kij**, $i, j = 0$ to 7 , $i < j$ define the bivectors, in the graph seen as connections between the points **i** and **j**.

tStop is the number of dots for drawing a figure.

vor is the number of invisible dots calculated before drawing.

zoom is a supplementary scale factor for the image. **scale** and **zoom** are multiplied in the program. The factor **a** influences the maximum distance of the random location vectors.

Other commands

The command **run** (or **start**) starts animated drawing. So you can wait until an attractor arises. With the **stop** command the animation stops.

The command **values** lists all parameter values and copies them to the clipboard. You can paste the list into an email or a text.

The command **read** followed by such a list (values, paste the list into the command field), sets the values in eightpoints. If you use the same format, own inputs after read are possible, even the definition of new colors, e.g.: `read col[0]="#FF0033"; ... col[7]="#2234D2";`

The command **defcols** resets eightpoints to default colors.