pshow

keys:	[plist]	*<number>*	source particle parameter list
	sort	*<parameter name>*	name of parameter by which particles are sorted
	if	*<expression>*	logical expression specifying which particles to include
	unless	*<expression>*	logical expression specifying which particles to exclude
	saturation	*<number>*	colour saturation of highlighted particles
	hue	*<number>* *<n1>,<n2>*	colour hue of highlighted particles hue for first and last highlighted particle
options:	**ascending/descending**		if ***sort***, sort on specified parameter in ascending or descending order

pshow operates on the particle parameter list (*ppl*) produced by the **analyse** command and an unscaled display of the corresponding segmented picture. **analyse** records 25 particles for each particle and stores these details in a *ppl*. **pshow** allows you to alter the display look-up tables to highlight any particles that meet the conditions that you specify. Refer to *Appendix D, Particle Parameters* for a list of the parameters recorded by **analyse** and the names that should be used to refer to them in **if/unless** expressions and the **sort** key.

Examples

```
analyse...segment...
display psegment noscale
pshow if area>100
```

This sequence of commands analyses a field and displays the segmented picture, in an installation with a display device 8 bits deep. **pshow** shows the the larger particles as white, and the smaller as grey, against a black background.

```
pshow if id=25
```

This command highlights the particle with an identifier of 25.

```
pshow if hferet<50 hue 0,240 saturation 0.8 sort area
```

This command highlights the selected particles with slightly de-saturated colours, spanning a range of hues from red to blue with increasing area.

pshow

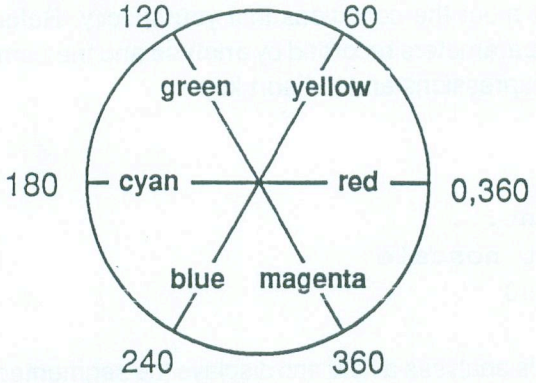
Description

pshow relies on false colour look-up table (*lut*) manipulation and can only be used when the number of particles to be highlighted is no larger than the number of *lut* entries, that is, the number of distinct grey levels that each display frame can store. Type **show luts** to list the currently defined look-up tables.

To use **pshow** you need to display the segmented picture produced by **analyse** as an unscaled picture. The best way to do this is to use the following command:

```
display...noscale
```

pshow works by using a look-table that shows the particles you select as white (in default) and all other particles as grey, against a black background. If you specify a non-zero value for the **saturation** key the selected particles are displayed in colour at the specified colour saturation level, using the hue given by the **hue** key. If you specify a pair of values for **hue**, **pshow** uses the specified range of colours to highlight the selected particles. The hue values form a spectrum through the range 0 to 360 degrees, which is illustrated below.



Use the keys **if/unless** to set criteria for selecting/rejecting particles. The **sort** key allows you to select a particle parameter on which to sort the particle list. The parameter names you can specify are **xref, yref, id, parent, holes, background, contact, xmin, xmax, ymin, ymax, hferet,vferet, aferet, bferet, hproj, vproj, perimeter, area, xcen, ycen, mmin, mmax, angle** and **circularity**.

Notes

see also: **analyse, show luts, display**

pshow

Defaults and Ranges

keys/options	defaults	range
[plist]	*ppl* held in the variable *pplist*	valid picture number
sort	particles ordered as in *ppl*	valid parameter name (see Appendix D)
if	true	valid Semper expression
unless	false	valid Semper expression
saturation	saturation 0 (no colour)	real number in range 0 to 1
hue	red	real number in range 0 to 360
ascending/ descending	ascending	