spc

keys:	**[from]**	*<number>*	source picture
	[to]	*<number>*	output picture
	with	*<number>*	intensity contours from specified picture are marked on source
	levels	*<number>*	number of contours to be marked
	range	*<n1>, <n2>*	draw contours between specified minimum and maximum values
	value	*<number>*	value used for marking contours
options:	**ln/list**		mark contours with equal ratio between heights, or heights given by the values of the variables *l, l2...l9*
	verify		verify marked contour heights at the console

Use **spc** to mark intensity contours in a picture, or to superimpose the contours of one picture onto another, with some flexibility as to the contour heights that are marked and the intensity of the contour lines. **spc** marks contours by resetting the actual pixels; use the **contour** command if you wish to draw contours on a display overlay instead.

Examples

```
display; spc display levels 9
```

This command displays the current picture and superimposes 9 contours on it. The contours are bright where the picture is dark and vice versa.

```
spc to display value min
```

This command displays the current picture, with 5 dark contours, covering the range held in the variables *min,max*.

```
spc ln range 1,64
```

This command marks 7 contours in the current picture, covering the range **ln(1)** to **ln(64)** (that is, contours at values 2,4,8,16 and 32).

```
l=32.4,38.7,41.3,44.6,59.3,61; spc 50 levels 6 list to dis with 51
```

This command displays picture 50, with contours of picture 51 superimposed at the six listed heights.

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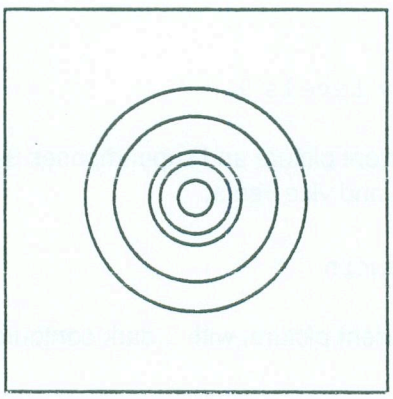
Description

By default, **spc** marks contours by setting pixels to whichever range limit is further (so that contours are bright where the picture is dark and vice versa). You can force any particular value for marking contours using the **value** key. You can superimpose the contours of one picture on another by setting **with** to the number of the picture you want to contour, as in the last command example.

You can specify the contour heights in several ways. Usually, the number of contours specified by **levels** is drawn (5 in default), covering the **range** indicated (*min, max* in default). The contours are evenly spaced. This does not include the extreme values, for example, **levels 3 range 1, 5** generates contours at heights 2, 3 and 4. If you specify **ln**, the contour heights are spaced with a constant ratio, effectively contouring the picture logarithm instead. This requires an entirely positive range: If you specify **list**, Semper takes an arbitrary set of heights from the variables *l,l2,l3..l9* as in the last command example.

spc marks contours by resetting the outermost pixels horizontally and vertically of any region as high as, or higher than, each contour height. Note that you can list the contour heights at the console using the **verify** option.

The diagram below shows contours created by **spc** on a lorentzian profile peak.



Notes

multi-layer pictures:	faulted
forms used internally:	fp, complex
variables used:	*l, l2, l3...l9* (if **list**, contour heights used by **spc**)
see also:	**contour**

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Defaults and Ranges

keys/options	defaults	range
[from]	current picture, held in the variable *select*	valid picture number
[to]	source picture	valid picture number
with	source picture	valid picture number
levels	5	positive integer
range	values held in *min*, *max*	integer
value	further of *range*, *ra2* from each individual contour height	real number
verify	verification off	