Pgmabel User Manual

pgmabel

Updated: June 2002
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NAME

pgmabel - create cross section using Abel Integration for Deconvolution

SYNOPSIS

pgmabel [**-help**] [**-axis** *axis*] [**-factor** *factor*] [**-pixsize** *pixsize*] [**-left** | **-right**] [**-verbose**] [*filespec*]

You can abbreviate any option to its shortest unique prefix.

DESCRIPTION

This program is part of Netpbm.

pgmabel reads as input a PGM image, which it assumes to be an image of a rotational symmetric transparent object. The image must have a vertical symmetry axis. **pgmabel** produces as output an image of a cross-section of the image. **pgmabel** does the calculation by performing the Abel Integration for Deconvolution of an axial-symmetrical image by solving the system of linear equations. After integration, **pgmabel** weights all gray-values of one side by the surface area of the calculated ring in square pixels divided by 4**factor* multiplied by the size of one pixel (*pixsize*). With the **-verbose** option, **pgmabel** prints the weighting factors.

Where the caculation generates a negative result, the output is black.

The computation is unstable against periodic structures with size 2 in the vertical direction.

OPTIONS

-help Prints a help message.

-axis *axis*Position of the axis of symmetry in the image in pixels from the left edge of the image. Default is the center of the image.

-factor *factor*User defined factor for enhancement of the output. Use a *factor* less than 1 for decreasing gary values. Default is 1.0.

-pixsize *pixsize*The size of a pixel for getting scale invariant. Default is 0.1.

-left Calculate only the left side of the image. You cannot specify both **left** and **right**.

-right Analogous to **-left**.

-verboseprint information about the calculation.

EXAMPLE

Rotate a PGM image to get an image with a vertical axis of symmetry, then calculate the cross section:

```
pnmrotate 90 file.pgm | pgmabel -axis 140 >cross_section.pgm
```

SEE ALSO

pnmrotate, **pgm**,

HISTORY

This program was added to Netpbm in Release 10.3 (June 2002).

AUTHOR

Volker Schmidt (lefti@voyager.boerde.de)

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