

NAME

imageblur - blur photons in the XY plane using an image

SYNOPSIS

imageblur [*option=value*]

DESCRIPTION

imageblur applies a blur in the X-Y plane to **bpipe** formatted rays.

It uses an input **FITS** formatted image to generate the blur offsets. The image need not be normalized.

The offsets are calculated by:

- Choosing a pixel in the image based upon its value relative to those of the other pixels.
- Adding a uniform blur to the pixel indices to randomly sample the pixel.
- Subtracting the `x0` and `y0` parameter values from the pixel indices.
- Multiplying the results by the `scale` parameter.

OPTIONS

imageblur uses an IRAF compatible parameter interface. It recognizes the following parameters:

input string

Input photon stream in bpipe format. The string 'stdin' causes scatter to read from standard input.

output string

Output photon stream in bpipe format. The string 'stdout' causes scatter to write to standard output.

pdf string

The filename of the image.

pmin float

pmax float

clip_pdf boolean

Pixels with probability values less than or equal to `pmin` and greater than `pmax` are excluded from consideration.

If `clip_pdf` is `true`, the absolute probability of each pixel is used. If `clip_pdf` is `false`, the probabilities are sorted and integrated, and the pixels whose contributions to the integrated probability lie between `[0, pmin]` and `(pmax, 1]` are excluded.

x0 float

y0 float

The position within the image (in pixels) corresponding to a blur offset of (0,0). If set to the string `center` the center of the image will be used.

scale float

The size of a pixel.

seed1 integer

The first seed for the random number generator. It must be in the range [1,214748339].

seed2 integer

The second seed for the random number generator. It must be in the range [1,214748339].

block integer

The random number block to start at. It must be in the range [1,1048575].

help boolean

Print brief usage information and exit.

usage boolean

Print usage information and exit.

version boolean

Print version and exit.

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