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` paramter 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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