impoissonize

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Abstract

This task creates an image whose values are random integers, each obeying a Poissonian probability distribution about a mean given by the respective pixel value of the input image.

1 Instruments/Modes

The task is not XMM-specific.

2 Description

For each pixel of the input image, the task generates a random integer. The probability of obtaining a particular output value follows a Poisson distribution with an average value equal to the value at that pixel of the input image.

3 Parameters

This section documents the parameters recognized by this task (if any).

Parameter	Mand	Type	Default	Constraints
inset	yes	dataset	dummy_default	

The input image.

outset	no	dataset	image.ds	

The output image of random Poissonian values.

tempset	no	dataset	tempimage.ds	

Name of a temporary cloned image dataset used while writing the output.

4 Input Files

1. A FITS dataset containing a 2-dimensional image array in the primary extension. The datatype of the image may be 8-bit integer, 16-bit integer, 32-bit integer, 32-bit real or 64-bit real.

5 Output Files

1. A FITS dataset containing a 2-dimensional image array in the primary extension, the same size as the input array and containing all of the keywords (except those pertaining to DSS) of the input. The datatype of this image is 32-bit integer.

6 Algorithm

References