boxdetect

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Abstract

This task detects sources on an image. It is intended as an instrument-unspecific replacement for the detection functionality of eboxdetect.

1 Instruments/Modes

Instrument	Mode

2 Use

pipeline processing	yes/no
interactive analysis	yes/no

3 Description

This task is similar to **eboxdetect** in that it detects sources by comparing counts in a sliding square box with the expectation value due solely to background. In fact the basic algorithm has been copied from **eboxdetect**. The differences between the two tasks are as follows:

1. **boxdetect** has no XMM dependence, so can be applied to single or mosaiced images from any source. The XMM dependence of **eboxdetect** arises because **eboxdetect** corrects source counts for PSF loss outside the square detection box and also calculates original source flux. **boxdetect** does not do this.
2. **boxdetect** is designed to work in conjunction with **imweightadd** and thus provides the ability to search for sources in weighted-sum images. This allows deeper detection when the spectrum of the source is known.
3. **boxdetect** employs essentially the same confusion-detection algorithm as **eboxdetect**, except that the dependence on source order has been removed.

See the **imweightadd** documentation for a description of the source detection algorithm.

4 Parameters

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

Parameter	Mand	Type	Default	Constraints
imagesets	yes	dataset list		
bkgmapsets	yes	dataset list		
withdetmaskset	no	bool	no	
detmaskset	yes	dataset		
boxhalfsize	no	int	2	0 ≤`boxhalfsize`
writebadmapset	no	bool	no	
badmapset	no	dataset	badmap.ds	
writelikemapset	no	bool	no	
likemapset	no	dataset	likemap.ds	
deleteconfused	no	bool	no	
filemode	no	string	append	append—create
srclistset	no	dataset	srclist.ds	
likemin	no	real	10.0	0 <`likemin`

5 Errors

This section documents warnings and errors generated by this task (if any). Note that warnings and errors can also be generated in the SAS infrastructure libraries, in which case they would not be docu-

mented here. Refer to the index of all errors and warnings available in the HTML version of the SAS documentation.

label *(error)*
explanation

label *(warning)*

corrective action: ********

6 Input Files

1. ********

7 Output Files

1. ********

8 Algorithm

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9 Comments

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References