omcomb

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Abstract

Combines 4 separate full-frame low resolution (engineering 2) mode image segments into a single image.

1 Instruments/Modes

Instrument	Mode
OM	IMAGING

2 Use

pipeline processing	yes
interactive analysis	yes

3 Description

The current version of omcomb combines the four image segments generated by the full-frame low resolution mode into a single image, which the OM imaging chain task, OMICHAIN, can then process.

This task was originally written for use by the OM slew-chain task in the process of building a complete OM flat-field: there it combined the 4 science windows from a single exposure, to produce 1/4 of a complete OM flat-field. Subsequently, a new, full-frame low-resolution OM science mode has been introduced, (also known as Engineering-2 mode), in which a single exposure of the whole field of view is acquired at low resolution using BPE (electronic) binning. The resulting image, 1024x1024 pixels, is telemetered as a sequence of four separate, but adjacent rectangular segments, each 256x1024 pixels in size. A requirement therefore arose for a task in the OM imaging-chain to recombine the four full-frame low-resolution mode image segments into a single image, and since at the present time the OM slew-chain task is disabled, omcomb has been modified to perform this task. As and when slew processing is again needed to produce flat-fields, that functionality will be re-instigated in omcomb so that it can perform either task.

4 Parameters

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

Parameter	Mand	Type	Default	Constraints
imagesets	yes	List of file-names		

List of input image datasets to be combined

Parameter	Mand	Type	Default	Constraints
outset	yes	Filename		

Name of output full-frame image dataset

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

Invalid x-image size *(fatal)*
filename

Invalid y-image size *(fatal)*
filename

4 image files are required *(fatal)*
only N were provided

Invalid WINDOWXO value (x) for file *name (fatal)*
WINDOWX0 should be either 0, 512, 1024 or 1536

2 FILES (*name* **and** *name***) have identical WINDOWX0 values** *(fatal)*

Invalid WINDOWYO value (x) for file *name (fatal)*
WINDOWY0 should be 0

Invalid WINDOWDX value (x) for file *name (fatal)*
WINDOWDX should be 512

Invalid WINDOWDY value (x) for file *name (warning)*

corrective action: WINDOWDY should be 2048

Invalid BINBPE value for file *name (warning)*

corrective action: BINBPE should be TRUE

6 Input Files

1. List of image files (image in primary header)

7 Output Files

1. Output image file

8 Algorithm

```
Check that the number of files in the input image list is 4- if not abort with
an appropriate error message.

For each input image:

1) Check that BINBPE is set to TRUE.

2) Check that the WINDOWDX value is 512.

3) Check that the WINDOWX0 value is either 0, 512, 1024 OR 1536.

4) Check that this WINDOWX0 value is not identical to one of the previous values.

5) Check that the WINDOWY0 value is 0.

6) Check that the WINDOWDY value is 2048.

If any of the above checks fail, abort with an appropriate message.

Combine the 4 images into a single image.
Create the output file, write the image to the file and add the
appropriate keywords.
```

9 Comments

References