omdrifthist

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Abstract

Produces PPS products OM postscript tracking history product

1 Instruments/Modes

Instrument	Mode
OM	FAST
OM	IMAGING

2 Use

pipeline processing	yes
interactive analysis	yes

3 Description

This task provides graphical and statistical information on the OM tracking history. This information will enable the observer to assess the effects of the DPU 'shift and add' procedure on the OM PSF. The input file is the pipeline(omprep)-prepared OM tracking history auxiliary file from a single exposure, which contains an (x, y) pointing position (as measured from the tracking stars) for each tracking frame. The resulting plot, which is PPS product OM postscript tracking history plot, contains statistics on the tracking history, a spot diagrams of the incremental drift-size, and two histograms showing the distribution of spacecraft pointing in x and y.

4 Parameters

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

Parameter	Mand	Type	Default	Constraints
set	yes	string	none	

Name of pipeline-prepared OM tracking history data auxiliary file for the exposure

plotfile	no	string	pgplot.ps	

name of output postscript file (PPS product OM postscript tracking history plot)

trackradius	no	real	2.5	

nominal radius of pointing accuracy

hardcopy	no	boolean	T	

produce a hardcopy?

pages	no	integer	1 2	$1 <= pages <= 2$

List of pages to plot

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.

badFileMode *(fatal)*
The data mode for the file is not set to TRACKING

ZERODRIFT *(warning)*
Tracking data is absent for this exposure so no tracking diagrams or statistical information can be generated
corrective action: No tracking statistics or plots will be generated

No good tracking-history frames found- *(warning)*
Tracking file exists but there are no tracking frames found within it so no statistics or tracking plots can be generated.
corrective action: No statistics or tracking diagrams will be produced.

Failed to release memory *(warning)*

corrective action: Memory for quoted variable can not be released for some reason

6 Input Files

1. Pipeline-prepared (OMPREP) OM Tracking History Auxiliary File

7 Output Files

1. PPS product OM postscript tracking history plot

8 Algorithm

```
subroutine omdrifthist
  open th_file
  read x,y pairs
  compute incremental tracking drift array
  compute  mean x,y
  compute sigma x,y
  compute number of times modulus(x,y) exceeds track_radius
  open postscript file
  append exposure details
  plot incremental drift size histogram
  append tracking history stats (e.g means and sigmas)
  close postscript file
  end

end subroutine  omdrifthist
```

9 Comments

- None.

10 Future developments

- In interactive use (hardcopy=no), task needs to prompt for page advance.

References