

# **IMAGETTES PIPELINE**

## **STATUS REPORT**

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# Imagette pipeline steps

- **Input interface:**
  - Load N1 imagette data
  - Fixed mask calculation
- **Estec pipeline (see next slide)**
- **Output interface:**
  - Outliers detection
  - Flags calculation (STATUS)
  - Orbital signal removal (STATUS = 0)
  - Creation of EN2\_WINDESCRIPTOR products

# Estec pipeline steps

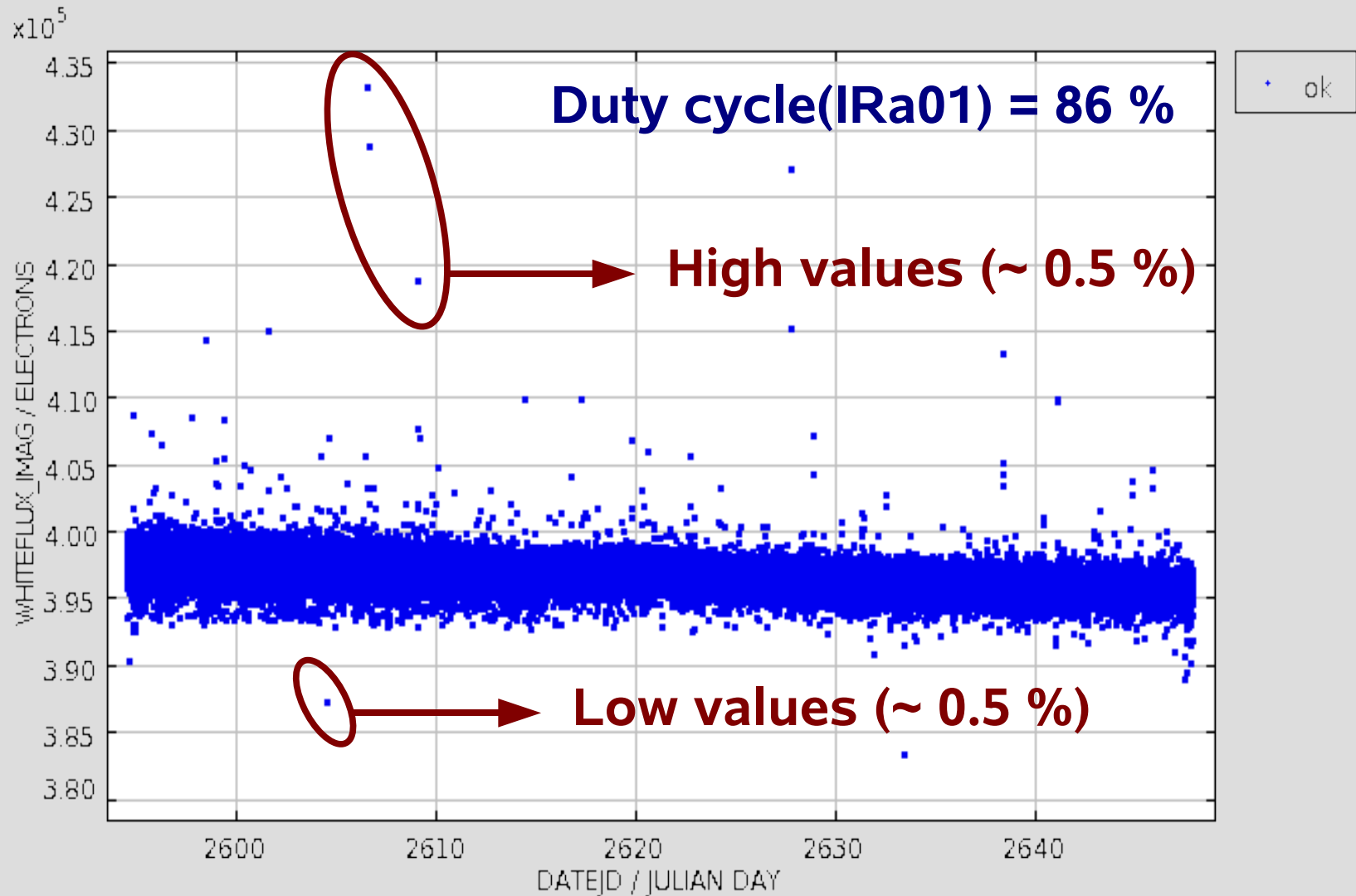
- **Cosmic events detection [and reparation]**
- **Hot pixels detection and reparation**
- **Background subtraction (local value)**
- **Jitter calculation from imagette**
- **Imagette recentering**
- **White lightcurve extraction (fixed mask)**
- **Colored lightcurve extraction (fixed masks)**
- **Cosmic events detection on final lightcurve**

# Solved (main) problems

- **Background correction algorithm not adapted for Corot:**
  - New background correction algorithm written
  - Use of LESIA pipeline N1 background value
- **False cosmic events detections due to jitter variations:**
  - New algorithm to detect false detections (2 passes)
  - **Future work required to correct the pipeline !**
- **Temporal change of mask:**
  - New algorithm for calculating a constant mask (MO)

(+ visualization & analysis tools / products interface ...)

# Example of LC



# Pending problems

- Remaining « **high values** »
  - Not fully understood
  - Problem in cosmic impacts detection ?
  - Ongoing work to (i) understand the origin of the problem and (ii) detect and flag the outliers
- Remaining « **low values** »
  - Correlated to large jitter values in N1\_LOS
  - Problem connected with large HF jitter ?
  - Ongoing work to flag the data points using N1\_LOS
- Validation on long runs (memory)

# Statistics (1/3)

## Duty cycle

- 80 LightCurves from 'IRa01 (40 imagerettes)
- From 4E3 to 1.4E5 points (total : 6E6 points)
  - Duty cycle
  - Min 85.22 %
  - Max 87.35 %
  - Total 86.29 %

# Statistics (2/3)

## Usage of status flags

Flag	Min.	Max.	Total	
1	2.22 %	6.25 %	4.60 %	cosmic detected in pixels
2	0.02 %	1.76 %	0.48 %	cosmic detected in sum
4	9.25 %	9.43 %	9.37 %	SAA (N0N1)
8	1.54 %	1.59 %	1.55 %	eclipse inbound
16	1.55 %	1.61 %	1.55 %	eclipse outbound
32	8.11 %	8.27 %	8.15 %	SAA (N1N2)
64	0.00 %	0.00 %	0.00 %	jitter exceed (N0N1)
128	0.00 %	0.02 %	0.00 %	detection of new hot pixel
256	0.00 %	0.00 %	0.00 %	N/A (background flare)
512	0.00 %	0.00 %	0.00 %	N/A
1024	0.00 %	0.00 %	0.00 %	VALIDFLUX = 1 (onboard sw)
2048	0.00 %	0.00 %	0.00 %	VALIDFLUX = 2 (onboard sw)



# Example of LC

