Make the eclgrm-vhf products

F. Piron, ECLGRM-VHF IS training (2026/05/12)

Goal of this presentation

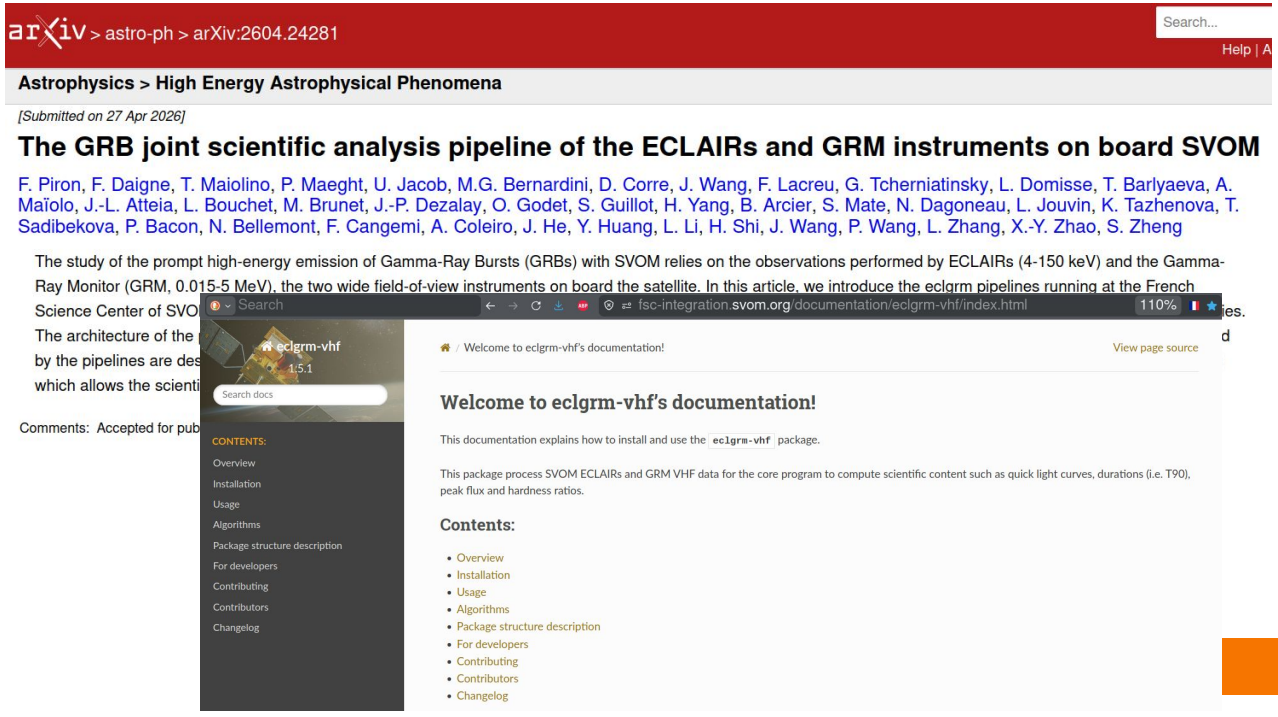
- **Present the step-by-step procedure of the ECLGRM-VHF IS during phase 2**
  - Introduced in F. Daigne's presentation "The ECLGRM-VHF IS timeline"
- **Disclaimer: the shift procedure will be fully updated after this training session**
  - More detailed description of each step, with examples
  - Your comments and suggestions are welcome (directly in the document)

Useful documents

- Shift procedure: ”Procedure for ECLAIRS / GRM Instrument Scientists on shift: working with VHF data in real time”
- Pipeline article in RAA (SVOM special issue): “The GRB joint scientific analysis pipeline of the ECLAIRs and GRM instruments on board SVOM”
- Pipeline full documentation (for experts) – installation, usage, targets, workflow & tasks, algorithms, products: Welcome to eclgrm-vhf’s documentation!

Procedure for ECLAIRS / GRM Instrument Scientists on shift: working with VHF data in real time

Frédéric Piron (version 1.2 – May 9, 2026)



arXiv > astro-ph > arXiv:2604.24281

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Astrophysics > High Energy Astrophysical Phenomena

[Submitted on 27 Apr 2026]

The GRB joint scientific analysis pipeline of the ECLAIRs and GRM instruments on board SVOM

F. Piron, F. Daigne, T. Maiolino, P. Maeght, U. Jacob, M.G. Bernardini, D. Corre, J. Wang, F. Lacreu, G. Tcherniatinsky, L. Domisse, T. Barlyaeva, A. Maïolo, J.-L. Atteia, L. Bouchet, M. Brunet, J.-P. Dezalay, O. Godet, S. Guillot, H. Yang, B. Arcier, S. Mate, N. Dagoneau, L. Jouvin, K. Tazhenova, T. Sadibekova, P. Bacon, N. Bellemont, F. Cangemi, A. Coleiro, J. He, Y. Huang, L. Li, H. Shi, J. Wang, P. Wang, L. Zhang, X.-Y. Zhao, S. Zheng

The study of the prompt high-energy emission of Gamma-Ray Bursts (GRBs) with SVOM relies on the observations performed by ECLAIRs (4-150 keV) and the Gamma-Ray Monitor (GRM, 0.015-5 MeV), the two wide field-of-view instruments on board the satellite. In this article, we introduce the eclgrm pipelines running at the French Science Center of SVO

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Comments: Accepted for pub

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eclgrm-vhf 1.5.1

Search docs

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For developers
Contributing
Contributors
Changelog

Welcome to eclgrm-vhf's documentation! View page source

Welcome to eclgrm-vhf's documentation!

This documentation explains how to install and use the `eclgrm-vhf` package.

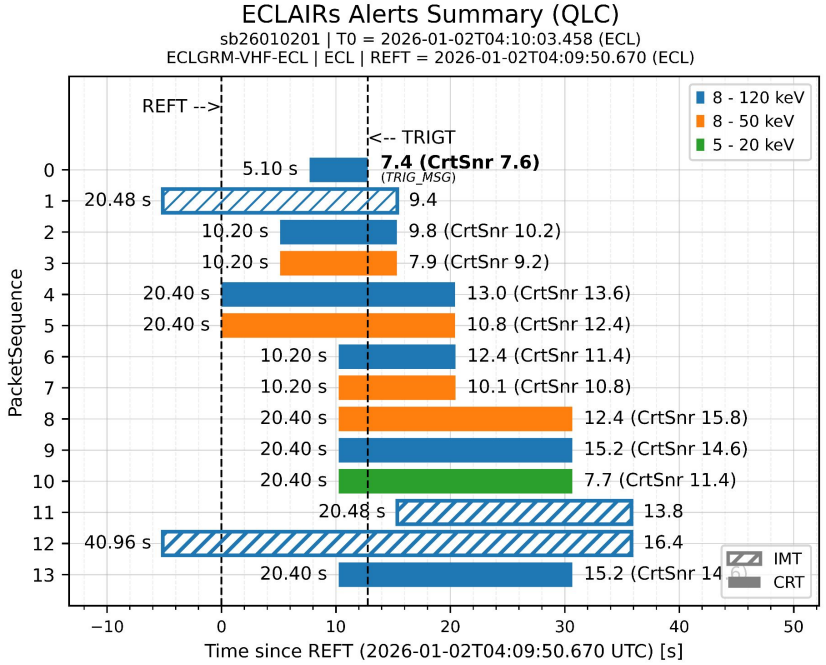
This package process SVOM ECLAIRs and GRM VHF data for the core program to compute scientific content such as quick light curves, durations (i.e. T90), peak flux and hardness ratios.

Contents:

- Overview
- Installation
- Usage
- Algorithms
- Package structure description
- For developers
- Contributing
- Contributors
- Changelog

Reference time (REFT) vs. trigger time (T0)

- GRM trigger: REFT is equal to the trigger time T0 (end time of the trigger window)
- ECL trigger: REFT is the start time of the trigger window for the best alert obtained during the first 12 seconds of onboard processing → REFT is often different from T0 (end time of the trigger window for the first alert received on the ground)



Step #8 : Check the informative plots

- Eclgrm-ui → frame “GRB information and navigation”
- Example of sb26010201

Step #9 : Check the onboard light curves

- Eclgrm-ui → frame “Light curves in different energy bands”
- Example of sb26010201

Step #10 : Assess the quality of the automated background fit

- Eclgrm-ui → frame “Background subtraction in different energy bands”
- Example of sb26010201

Step #11 : If needed: reprocessing to improve the background fit

- Eclgrm-ui → main page
- Example of sb26010201

Task	Parameter	Default	Reproc	Purpose
QLC	twindow_min twindow_max	sec_since_reft = -108.8 / +403.2	Choose start and/or stop times of the analysis window	To restrict the overall analysis around the GRB, for example to discard late data when GRB emission stops before the slew starts.
QLC	time_interval_selection	Method = bayesian_blocks_auto	Set Method = fixed and choose t_left and t_right	To define OFF-1,2 regions for bkg fit
QLC	background	model = modelAuto porder = -1 (tries from 0 to 4)	Choose modelE or modelT, and/or choose porder = n (for all energy bands)	To adapt the bkg model (e.g. modelT usually enough if no slew)
QT90	n_draw	300	100 for tests 1000 once the results are SDB ready (top right button in the configuration editor)	100 to speed up resampling (less accurate QT90 error)

Step #12 : Assess the quality of the duration analysis

- Eclgrm-ui → frame “Duration”
- Example of sb26010201

Step #13 : If needed: reprocessing to improve the duration analysis

- Eclgrm-ui → main page
- Example of sb26010201
- Example of sb26051101

Task	Parameter	Default	Reproc	Purpose
QLC	twindow_min twindow_max	sec_since_reft = -108.8 / +403.2	Choose start and/or stop times of the analysis window	To restrict the overall analysis around the GRB, for example to discard late data when GRB emission stops before the slew starts.
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