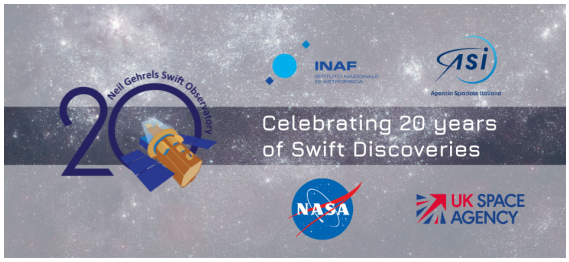

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SVOM/ECLAIRs Gamma-Ray Burst Trigger In-Flight Commissioning

Tuesday 25 March 2025 14:29 (1 minute)

The French-Chinese SVOM satellite (Space Variable Objects Monitor) was launched on June 22, 2024, from the Xichang launch site in China. The mission's objectives focus on detecting and studying astrophysical transient events, with a primary emphasis on Gamma-Ray Bursts (GRBs). The GRB Trigger of the ECLAIRs instrument onboard SVOM has already detected several notable bursts and initiated autonomous satellite slews to enable follow-up observations by the MXT and VT instruments onboard. Additionally, it transmits real-time burst alerts via the SVOM VHF network, enabling follow-up campaigns by the broader scientific community, including several space and ground-based facilities, among which Swift is a key partner.

This presentation provides a status update on the ECLAIRs GRB Trigger following the recent completion of the in-flight commissioning phase. It emphasizes the complementarity between the Count-Rate Trigger and the Image Trigger algorithms, running both in parallel, and details some of the configuration adjustments made in response to real in-flight data. Coupled with the very good performances of the ECLAIRs detector plane and onboard processing unit, the Trigger has enabled SVOM to detect and localize accurately several notable GRBs, including X-ray rich GRBs and GRBs with redshift determinations, as reported in GCN circulars already from the early stages of commissioning.

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