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NITRATES / GUANO

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Alerts and results from Swift-BAT GUANO data and the NITRATES analysis

In 2019 the Gamma-ray Urgent Archiver for Novel Opportunities (GUANO) was implemented, allowing for time-tagged event data for the Swift Burst Alert Telescope (BAT) to be saved on command around times of interest. This allows for more sensitive analyses to be performed on the ground. The most sensitive being, the Non-Imaging Transient Reconstruction And Temporal Search (NITRATES), a likelihood based analysis that boosts the detection rate of GRBs like 170817A by a factor of ~5 over the onboard analysis. GUANO has been used to save data around GW alerts, FRBs, high-energy neutrinos, and externally detected GRBs, leading to additional arcminute scale localization of dozens of GRBs and sensitive upper limits to multi-messenger alerts. In this talk I will give an overview of the GUANO system and NITRATES analysis as well as recent results. I will also describe the alerts we distribute, which include localizations that span from arcminute scale circles to full sky probability maps.

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Classification de Session: Wavelengths and messengers