



Contribution ID: 87

Type: **Poster Presentation**

Background Estimation in Fermi Gamma-ray Burst Monitor lightcurves through a Neural Network

Tuesday, 31 May 2022 14:39 (3 minutes)

The aim of this work is to provide a data-driven approach to estimate a background model for the Gamma-Ray Burst Monitor (GBM) of Fermi satellite. We employ a Neural Network (NN) to estimate each detector background signal given the information of the satellite: position, velocity, direction of the detectors, etc. The estimated background can be employed into a triggering algorithm to discover significant long/weak events that are and previously not detected by other approaches.

We show the potentiality of the model by estimating the background on GBM data for Gamma-Ray Bursts (GRBs) present in GBM cataloge, the long GRB 190320 and ultra-long GRB 091024.

The proposed approach is straightforwardly generalizable to estimate the background model of other satellites.

Main Topic

Time series analysis, transients

Secondary Topic

Classification and regression

Participation mode

Remote

Primary author: CRUPI, Riccardo (Istituto Nazionale di Astrofisica (INAF))

Presenter: CRUPI, Riccardo (Istituto Nazionale di Astrofisica (INAF))

Session Classification: Poster Session Day 2