

Spectro-imaging follow-up of gamma-ray bursts with the OHP/T193

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Abstract

Gamma-ray bursts (GRBs) are among the most energetic explosions known in the Universe produced by the death of massive stars or the coalescence of two compact objects (e.g., two neutron stars). Due to their transient nature, rapid follow-up observations are the unique chance to characterize and determine crucial properties (e.g., redshift) to better understand these violent phenomena. In late 2023, the Sino-French SVOM mission will be launched to monitor the sky and detect transient sources such as GRBs. Compared to previous missions, SVOM will benefit from a better synergy with ground telescopes in order to perform rapid and efficient follow-up observations. As part of this effort, we proposed a Target Of Opportunity (ToO) program using the low-resolution spectro-imager MISTRAL instrument mounted on the OHP/T193. In this talk, I will present the interests of using MISTRAL for upcoming SVOM alerts and our first GRB follow-up observations with MISTRAL using bursts detected by *Swift*. In particular, I will report the recent observations with the OHP/T193 and OHP/T120 telescopes of the brightest of all time GRB (GRB 221009A) detected last year. These preliminary MISTRAL triggers prepare the SVOM community to react quickly to alerts, and rapidly reduce, analyze and interpret the MISTRAL data, essential to fully exploit the imminent SVOM alerts.

Keywords— Gamma-ray bursts, Follow-up, MISTRAL, SVOM