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## Investigating the nature of cosmic gamma-ray bursts with MXT aboard SVOM

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Gamma-Ray Bursts (GRB) are short (up to few tens of seconds) and intense flashes of gamma-rays, appearing from random directions over the entire sky. These flashes are either created by the collapse of very massive stars (more than 50 times the mass of the Sun), or the merging of two compact objects (e.g. two neutron stars). The event of the 17th August 2017, as the first joint observation of a gamma-ray burst electromagnetic signal along with its gravitational wave counterpart, opened the way to multi-messenger astrophysics, and offered astrophysicists solid evidences to hone models involving the merging of two neutron stars. However, some aspects of those models remain open questions. In particular, the nature of the object arising from such a merger is still widely discussed. SVOM (Space based Variable astronomical Object Monitor) is a Sino-French mission, dedicated to the study of these cosmic explosions. It is planned for launch late 2023 for a nominal mission lifetime of three years. It will carry on-board four instruments, among which the Micro-channel X-ray Telescope (MXT), a focusing X-ray telescope with a field of view of about  $1^\circ \times 1^\circ$ , sensitive in the 0.2-10 keV energy range. In this talk, we will present the SVOM mission in the context of the multi-messenger era, review MXT performances, and discuss how this mission, and in particular MXT, will enable us to better understand GRBs progenitors.

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