

SVOM Kicks Off to Explore Gamma-ray Bursts

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At sharp 15:00 GMT+8 on June 22, the Space Variable Objects Monitor (SVOM), a satellite designed to observe and explore gamma-ray bursts (GRBs), was sent into preset orbit from a satellite launching center in Xichang city of northwestern China. Jointly developed by the Chinese Academy of Sciences (CAS) and the French Space Agency (FSA), this satellite is the most powerful so far in terms of multi-waveband GRB observations, and is expected to play

an important role in GRB research and related space science and astronomy.

GRBs are the fiercest bursts known in the cosmos, except for the big bang; and related research directly inspires the pursuit of some important astrophysical issues. This type of celestial bodies is also connected to many problems on the frontiers of fundamental physics, therefore in-depth research on them will also help solving such physical problems.

Onboard SVOM are two payloads



Graphic: microsat, CAS

Illustration of SVOM.

developed by CAS, namely a gamma-ray monitor and an optical telescope; and two by FSA, a hard X-ray camera and a soft X-ray camera. Of them, some cover a wide field-of-view of around 10,000 square degrees, capable of snapshooting one fourth of the sky at just a glance. These instruments can scan the sky quickly to detect unexpected GRBs. Once the objects are identified, the satellite will automatically lock on them to perform follow-up observations using two aboard cameras of high accuracy.

Via these linked observations, variable

GRBs can be identified and observed, so as to comprehensively study their electromagnetic radiations, to better understand their origin and their physical properties. It can also help scientists study electromagnetic counterparts of gravity wave sources. Based on the data from future SVOM observations, scientists might be able to study dark energy and cosmos evolution, and explore potential applications of GRBs in cosmology.

Forces from multiple institutions under CAS have participated in the joint venture.