The SVOM Gamma-Ray Burst Mission. F. Piron¹, on behalf of the SVOM consortium, ¹Laboratoire Univers et Particules de Montpellier, Université de Montpellier, CNRS/IN2P3, Montpellier, France, piron@in2p3.fr.

Abstract: Scheduled for a launch in 2021, SVOM ("Space-based multi-band astronomical Variable Objects Monitor") is a Sino-French space mission dedicated to the study of Gamma-Ray Bursts (GRBs). The satellite payload combines a coded-mask telescope operating in the 4-150 keV energy range for real-time detection and localization of all known types of GRBs, a non-imaging gamma-ray monitor for GRB spectroscopy up to MeV energies, and two narrow-field follow-up telescopes to refine the GRB positions and to study their afterglow emission in the X-ray and visible bands. The pointing strategy of the satellite has been optimized to favor the detection of GRBs located in the night hemisphere, in order to facilitate GRB redshift measurements by the largest telescopes and to enhance ground-based observations in the first minutes. The SVOM ground segment includes a wide-field camera to catch the GRB prompt emission in the visible band and two robotic telescopes to measure the photometric properties of the early afterglow in the NIR/visible band. We will present the scientific objectives of the SVOM mission, the operations, the instruments and their expected performance for GRB studies. We will also outline the prospects for GRB science with SVOM in the context of the multi-wavelength and multi-messenger panorama for the next decade.