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SYNERGIES BETWEEN STRATOSPHERE BALLOONS AND SATELLITE EXPERIMENTS FOR
ASTROPHYSICS

Abstract

Stratospheric balloons offer a real opportunity to explore the sky phenomena and their underlying physics behind spaceflight. For decades, instruments on satellites have revolutionised our view of the cosmos by performing deep surveys and observing objects up to the most remote regions of the Universe. In more recent years, since the discovery of gravitational wave emission from merging black hole and neutron star systems, satellites have played a major role in the characterisation of these new transient and most violent phenomena opening the era of time domain astronomy. The observation of transient events associated to supermassive black holes, the violent death of stars, the birth of new black holes and formation of the heaviest chemical elements has become a major objective of present multi-wavelength astronomy. In this framework, I will discuss how high energy instruments on board next generation stratospheric balloons may complement the performance of satellite borne payload also including the new generation small satellite programs.