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Sun CubE OnE: A Multi-wavelength Synoptic Solar Micro Satellite

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The Sun cubE onE (SEE) is a proposed 12U CubeSat mission in LEO that will investigate Gamma and X-ray fluxes and UV solar emission to support studies in Sun-Earth interaction and Space Weather. SEE's primary goal is to monitor the emission from soft-X to Gamma ray energy range and the solar activity using full disk images in the Mg II doublet at 280 nm.

The Gamma and X-ray fluxes will be studied with unprecedented temporal resolution and with a multi-wavelength approach thanks to the combined use of silicon photodiode and SiPM based detectors. The flare spectrum will be explored from the KeV to the MeV range of energies by the same payload, and with a cadence > 10 kHz to investigate the sources of the solar flares.

Given its UV imaging capabilities, SEE will be a key space asset to support detailed studies on solar activity, especially in relation to ultraviolet radiation which strongly interacts with the upper layers of the Earth's atmosphere, and in relation to space safety, included in the field of human exploration.

SEE data will be used together with space and ground-based observatories that provide Solar data, high energy particle fluxes and geomagnetic data in a multi-instrument/multi-wavelength/multi-messenger approach. SEE has recently passed the technical assessment by Italian Space Agency and it is currently in the shortlist of mission proposals for which the commission will proceed to the adequacy assessment.

Student poster?

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