

An integral field spectrograph for SNAP supernova studies

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ABSTRACT

A well-adapted spectrograph concept has been developed for the SNAP (SuperNova/Acceleration Probe) experiment. The goal is to ensure proper identification of Type Ia supernovae and to standardize the magnitude of each candidate by determining explosion parameters. An instrument based on an integral field method with the powerful concept of imager slicing has been designed and is presented in this paper. The spectrograph concept is optimized to have very high efficiency and low spectral resolution ($R \sim 100$), constant through the wavelength range (0.35-1.7 μ m), adapted to the scientific goals of the mission.

Keywords: SNAP, Supernovae, Integral field, Spectrograph, Image slicer