**CubeSpec: Mission overview**

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CubeSpec is an in-orbit demonstration CubeSat mission in the ESA technology programme, developed and funded in Belgium. The goal of the mission is to demonstrate high-spectral-resolution astronomical spectroscopy from a 6-unit CubeSat. The technological challenges are numerous. The telescope and echelle spectrometer have been designed to fit in a 10x10x20cm volume. The fast telescope focus and spectrometer alignment is achieved via an athermal design. Shielding from the Sun and Earth infrared flux is achieved via deploying Earth and Sun shades. Arcsecond-level pointing stability is achieved using a performant 3-axis wheel stabilised attitude control system with star tracker augmented with a fine beam steering mechanism. CubeSpec is now starting the implementation phase, with a planned launch in 2025. A qualification and a flight model will be constructed and tested in the next 2 years. In this contribution we will give an overview of the mission, its technologies and qualification status.



1. [↑](#footnote-ref-1)