

Deriving Requirements for the EChO Detectors and a review of current technology status

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The Exoplanet Characterisation Observatory (EChO) is a space mission dedicated to undertaking spectroscopy of transiting exoplanets over the widest wavelength range possible. It requires simultaneous low resolution spectroscopy over wavelengths from 0.4 to 16 micron. The waveband has been divided into four channels (combined Visible & Near infrared, and then Short, Mid and Long wave infrared). The proposed target list of stars plus the zodiacal background at longer wavelength represent a challenging range of flux levels from which the transit effect must be extracted. The combination of dynamic range, sensitivity and stability present significant challenges to the Detector Suppliers. We report on the process of deriving specifications for the detectors in each channel and on the timeline to establish a baseline detector selection for the Yellow Book. We discuss feedback from an initial discussion with European and US suppliers and the pros and cons of typical existing solutions.