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## Results from final-stage lab commissioning of a continuous 100-mK helium light cryogenic platform for MUSCAT

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MUSCAT (the Mexico UK Submillimetre Camera for AsTronomy) is a 1.1-mm receiver currently in the final stages of development and scheduled for deployment on the Large Millimeter Telescope (LMT) on Volcán Sierra Negra in Mexico during the third quarter of 2019. In its first generation, MUSCAT will use 1,500 LEKID detectors to carry out follow-up observations of *Herschel*-ATLAS fields. However, beyond this MUSCAT is designed to offer a versatile platform capable of acting as an on-sky demonstrator for emerging and next-generation detector technologies. To realise this ambition, MUSCAT utilises a combination of continuous sorption coolers and a miniature dilution refrigerator to cool its detector stage to approximately 100 mK continuously. This cryogenic system gives MUSCAT the capability of operating narrow-spectral-band detectors such as multichroic pixels or on-chip spectrometers with background-limited performance. Here we present results for the cryogenic performance of MUSCAT from the final stages of lab commissioning prior to deployment. We will also present the current status of the MUSCAT instrument as a whole and our schedule through to deployment on the LMT.

### Less than 5 years of experience since completion of Ph.D

Y

### Student (Ph.D., M.Sc. or B.Sc.)

N

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