



Noise, jumps and non-linearity: Optimising the SCUBA-2 TES arrays for spectrometry with FTS-2

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SCUBA-2 is a wide field submillimetre camera on the James Clerk Maxwell Telescope (JCMT), located at the summit of Mauna Kea, Hawaii. SCUBA-2 has been fully operational for 3.5 years, producing excellent science, including a unique series of JCMT legacy surveys. Observations are made simultaneously at 450 and 850 microns, using twin focal planes, each with 5,120 Transition Edge Sensors, with time domain multiplexed readout. The detector performance requirements for the two ancillary instruments currently being commissioned, a polarimeter (POL-2) and an imaging Fourier Transform Spectrometer (FTS-2), are more demanding compared to the standard scan observing modes. In this paper we discuss the impact of variable noise, jumps/steps and non-linear detector response on FTS-2 observing and explore the ways that the SCUBA-2 detectors arrays can be better tuned for FTS-2.