Rad hard MICE in space

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Abstract: The MAUS is a radiation hardened analogue fine Sunsensor optimized for cubesat applications. Originally designed as a testbed for the digital Sunsensor chip, the housing was fitted with the Sensor and membrane as used in the ECSS-Q-ST-10-03 qualified BiSon Sunsensors. This led to the birth of the Miniature Analogue Ultimate Sunsensor (MAUS). As the German word Maus means Mouse in English and several of them are projected to be in space by the time of the conference above title seemed logical. Like the BiSon Sunsensors, the MAUS uses a 650µm Sapphire window and a four-quadrant photodiode as the core components. The diodes have been lot acceptance tested to at least 8E14 1MeV electrons (equivalent to 19.2 Mrad) This turns the MAUS into the only radiation hardened CubeSat Sunsensor available on the market today.

Developed at the end of 2019 the sensors did fulfil the need of ISISpace for a robust and reliable solution to be used in their new core AOCS system. This in turn has led to an early selection and fast flight qualification. Several other customers are expected to follow suit as the MAUS is one of the few viable options available for CubeSats needing to go beyond Low Earth Orbit or desiring a higher reliability.

Optional: In flight experience, sensors, AOCS