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A new SQUID controller unit for space-based TES sensors' readout

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We have developed a SQUID controller unit for TES sensors readout, designed to be used in a space mission. The unit is made of 8 boards and each board can condition four SQUID array amplifiers. The board design is inspired by a similar one developed for ground based experiments, but specific changes have been made to adopt COTS with space grade equivalents, to implement redundancy and cross-strapping capabilities. The design also includes the thermal path to lift the heat off the boards towards an in-house designed monolithic aluminum rack. In this contribution we report the board performances in terms of cross-talk, bandwidth and noise, together with the thermo-mechanical simulations.

Collaboration

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