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Readout electronics development for the OSCURA experiment

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We present a multiplexed analog readout electronics system for Skipper-CCDs based on an ASIC. It allows for sub-electron noise-level operation while maintaining a minimal number of acquisition channels. In addition, it requires low-disk storage and low-bandwidth data transfer with zero added multiplexing time during the simultaneous operation of thousands of channels. We describe the implementation and results of this system in a new instrument composed of 160 sensors operated with a two-stage analog multiplexed readout scheme. The instrument is a part of the R&D effort of the OSCURA experiment.

Submitted on behalf of a Collaboration?

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