

Abstract Submitted  
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**A large-range scanner for a SQUID microscope** JACOB HASTINGS, CHRISTOPHER STEWART, RASIKA DAHANAYAKE, ILYA SOCHNIKOV, University of Connecticut, Storrs, CT — Scanning Superconducting QUantum Interference Device (SQUID) microscopy is an ultrasensitive technique for studies of many condensed matter phenomena. Due to the long-range nature of magnetic fields, it is often beneficial to image large areas of studied samples. While, for example, a typical magnetic force microscope scan range is a few tens of micrometers, for scanning SQUIDs, hundreds of micrometers or a few millimeters scan range is desirable. We develop a millimeter-range scanner with minimized image distortions. It is based on piezo-mechanical amplifiers and could be combined with a voltage source with an active vibration suppression feedback loop for applications in a closed cycle cryostat.

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