

Abstract Submitted
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Piezo-electric Sample Rotators optimised for Low Temperature Experiments KURT HASELWIMMER, SERGIY ROZHKO, CHARLIE FARQUHARSON-ROBERTS, Cambridge Magnetic Refrigeration — The ability to rotate samples at ultra-low temperatures is of great importance to hall effect and quantum oscillation measurements but has traditionally been hampered in millikelvin experiments by friction in and heat leak through mechanical transmission components. Using recent developments in piezo-electric drives we have now been able to develop a range of completely electronically driven rotation devices that make rotation in high field on millikelvin ADR systems significantly easier than previously possible. Measurements to be presented will show that unlike mechanical devices these rotators feature very low backlash and low power dissipation. Together with multiple axis rotation and direct positional readout, these devices are now rugged enough to be made commercially available for the first time as interchangeable cryogenic components.

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