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Quantum Oscillations in the C-Axis Transport of YBCO BRAD

RAMSHAW, University of British Columbia — We have measured the c-axis resistivity in single crystal YBCO in pulsed magnetic field up to 60 Tesla. These high quality samples show very large amplitude Shubnikov de Haas once the vortex lattice has melted. Because of the high resistivity of the c-axis as compared to the a-b plane, the signal to noise ratio of these oscillations is much higher than that of previously reported oscillations, and this allows for a detailed analysis using the well known Lifshitz –Kosevich theory. Data has been collected at several temperatures and angles, and fits to this data yield information about the shape and number of pockets that are contributing to the transport.

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