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$CePt_2In_7$: Focused Ion Beam Sample Preparation for Quantum Oscillation Measurements under High Pressure JAKOB KANTER, P. MOLL, Laboratory for Solid State Physics, ETH Zurich, Switzerland, S. FRIEDEMANN, P. ALIREZA, M. SUTHERLAND, S. GOH, Cavendish Laboratory, University of Cambridge, Cambridge, UK, F. RONNING, E.D. BAUER, Los Alamos National Laboratory, Los Alamos, New Mexico, USA, B. BATLOGG, Laboratory for Solid State Physics, ETH Zurich, Switzerland — Electronic transport measurements under high pressures face several experimental challenges due to confined sample space and high forces acting on contacts and leads. As a result conventional preparation methods are often limited in the number of possible leads and usually do not allow for sample structuring. The Focused Ion Beam (FIB) enables sample contacting and structuring down to a sub-micrometre scale, making the measurement of several samples with complex shapes on a single anvil feasible. This talk will discuss Shubnikov-de Haas measurements of FIB prepared $CePt_2In_7$ samples under high pressures. $CePt_2In_7$ belongs to the $Ce_mM_nIn_{3m+2n}$ heavy fermion family. Compared to the $CeMIn_5$ members of this group, the structure of $CePt_2In_7$ has a more pronounced two dimensional character, but also exhibits an antiferromagnetically ordered as well as a superconducting phase. We have studied the changes of the quasiparticle masses for the various orbits as function of pressure approaching the quantum critical point.

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