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Multi-symmetry and Multi-band Superconductivity in Superconducting Filled-skutterudites. ROBERT W. HILL, University of Waterloo, Canada, SHIYAN LI, Universite de Sherbrooke, Canada, M.B. MAPLE, University of California, San Diego, LOUIS TAILLEFER, Universite de Sherbrooke, Canada — Thermal conductivity measurements were performed on single crystal samples of the superconducting filled skutterudite compounds $PrOs_4Sb_{12}$ and $PrRu_4Sb_{12}$ both as a function of temperature and magnetic field applied perpendicular to the heat current. In zero magnetic field, the low temperature electronic thermal conductivity of $PrRu_4Sb_{12}$ is vanishingly small, consistent with a fully-gapped Fermi surface. For $PrOs_4Sb_{12}$, however, we find clear evidence for residual electronic conduction as the temperature tends to zero Kelvin which is consistent with the presence of nodes in the superconducting energy gap. The field dependence of the electronic conductivity for both compounds shows a rapid rise immediately above H_{c1} and significant structure over the entire vortex state. In the fully gapped superconductor $PrRu_4Sb_{12}$, this is interpreted in terms of multi-band effects. In $PrOs_4Sb_{12}$, we consider the Doppler shift of nodal quasiparticles at low fields and multiband effects at higher fields.

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