

Abstract Submitted  
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**Thermal Properties of Nd-Doped  $\text{PrOs}_4\text{Sb}_{12}$  Extracted From Measurement of Specific Heat**<sup>1</sup> TAYLOR MCCULLOUGH-HUNTER, Physics Department, California State University, Fresno, SHOJI HISHIDA, PEI-CHUN HO, Department of Physics, California State University, Fresno, BRIAN MAPLE, Department of Physics, University of California, San Diego, TATSUYA YANAGISAWA, Department of Physics, Hokkaido University, Japan —  $\text{PrOs}_4\text{Sb}_{12}$  has attracted interest due to its unconventional heavy fermion superconductivity, interest that has increased once the Nd-doped compound was shown at certain concentrations of Nd to simultaneously display ferromagnetism and superconducting properties at low temperatures. In order to better understand the more exotic low temperature behavior exhibited by this system, it is necessary to characterize its normal-state properties. Therefore, the molar specific heat of  $\text{Pr}_{1-x}\text{Nd}_x\text{Os}_4\text{Sb}_{12}$  is measured using finite heat pulse relaxation calorimetry. A curve-fit of the temperature-dependent molar specific heat allows an estimation of the Debye and Einstein temperatures, as well as the electronic specific heat coefficient. These properties are examined across  $x$  to determine the behavior of the system with respect to Nd-concentration. The results from the measurements will be discussed during the presentation.

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