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# THERMODYNAMIC AND TRANSPORT PROPERTIES OF $C_eP_dS_n$.

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ABSTRACT

The temperature dependence of specific heat, electrical resistivity and magnetic susceptibility in an equiatomic ternary compound CePdSn are presented. These mesure-ments indicate that at 7.3 K the material undergoes a phase transition to an antiferromagnetic state. The magnetic entropy at the ordering temperature $T_N$ is significantly lower than R ln 2 (R is the gas constant) which can be explained by the influence of Konodo effect and or crystalline electric field. Cerium remains trivalent in this compound while the data strongly suggests that there is a hybridization between the atomic f-electrons and wide band conduction electrons.

## INTRODUCTION

Cerium exhibits diverse magnetic behavior in its intermetallic forms such as a stable trivalent state with antiferromagnetism at low temperature and an intermediate valence state with partially delocalized 4f electrons [1]. Between these two lie another interesting class called Kondo compounds which show numerous anomalies analogous to those in dilute magnetic alloys. These interesting properties ascribed to the behavior of f-electrons are based on hyberdization between atomic-like 4f and the wide conduction band. As the 4f electrons are arranged on the periodic lattice, they act as the periodic potential to the conduction electrons. In responce the conduction electrons will behave as a Fermi liquid [2] with a large effective mass or large value of electronic specific heat coefficient, due to hybridization between f-