Novel Magnetic and Transport Properties of UAu0.66Sb2 Single Crystal

WEN ZHANG, China Acad of Engr Phys, CHUN-YU GUO, Zhejiang University, DONG-HUA XIE, YI LIU, SHI-YONG TAN, WEI FENG, XIE-GANG ZHU, QIN LIU, Y. Z. ZHANG, YUN ZHANG, LI-ZHU LUO, China Acad of Engr Phys, HUI-QIU YUN, Zhejiang University, XIN-CHUN LAI, China Acad of Engr Phys — Replace this text with your abstract body. We have successfully synthesized single crystals of UAu0.66Sb2 using a flux method and present a comprehensive study of the physical properties using magnetic susceptibility, electrical resistivity and specific heat measurements. UAu0.66Sb2 compound undergoes an antiferromagnetic transition at 71 K followed by a possible ferromagnetic transition below 30 K. The easy axis of magnetization is along the c axis. Two first-order meta-magnetic transitions and a magnetization plateau at $M \approx M_{\text{max}}/3$ are observed and analyzed. The magnetization plateau at $M \approx M_{\text{max}}/3$ may result from two sublattice magnetization in UAu0.66Sb2. We map the field-temperature phase diagram for fields applied parallel to the easy magnetization axis.

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