

Novel superconductivity of the noncentrosymmetric compounds LaTC_2 ($T=\text{Ni}$, Pd and Pt)

S. Katano and H. Nakagawa

Graduate School of Science and Engineering, Saitama University, Saitama, Saitama 338-8570, Japan

The superconductivity of the $T=\text{Ni}$, Pd and Pt based ternary carbides LaTC_2 has been studied with electrical resistivity, magnetization and specific heat measurements. The results for the Ni based compound show that the superconductivity of this material is well defined bulky one with the transition temperature of 2.8 K. The specific heat exhibits the T^2 temperature dependence below T_c , indicating that the energy gap has line nodes. Furthermore, the data of specific heat are not contradict with those of the materials with the p -wave superconducting symmetry that was previously claimed from the μSR experiment. The physical properties concerning to superconductivity of $T=\text{Pd}$ and Pt based compounds have also been investigated carefully. The results are presented and compared with those of the Ni based sample.