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Abstract
Recently, the symmetry of high-Tc superconductor has attracted much research and is being debated. It is now generally believed that the hole-doped high-Tc cuprates have a d-wave pairing symmetry. However, for the electron-doped (n-doped) cuprates Pr2-xCexCuO4 the situation is still not entirely clear.

In this thesis, we synthesize Pr1.85Ce0.15Cu1-yMyO4 (M=Zn、Ni) systems by solid-state reaction method. In the Pr1.85Ce0.15CuO4 sample (PCCO), We tried to measure the low-temperature specific heat of superconducting between 0.6K and 10K in zero field. We expect to find αT2 term to test whether this superconductor exists the d-wave pairing or not. In addition, the effects of a substitution for Cu by other 3d metals (Ni and Zn) on Tc in the Pr-Ce-Cu-O system are studied and compared with those in the La-Sr-Cu-O system.
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