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Specific Heat of Single Crystalline $Nd_{0.5}Sr_{0.5}MnO_3$[1] CARLOS SANCHEZ, VICTOR AGUILAR, OSCAR BERNAL, GUO-MENG ZHAO, Cal State Univ- Los Angeles — Substantial studies of magnetization and specific heat on $Nd_{0.5}Sr_{0.5}MnO_3$ have demonstrated the existence of a charge ordering (CO), ferromagnetic (FM), antiferromagnetic (AFM) transitions. In this work, the specific heat of two single crystalline $Nd_{0.5}Sr_{0.5}MnO_3$ samples, one containing ^{16}O and the other highly concentrated ^{18}O, was measured as a function of temperature, from 3K to 300K, at both zero and 50 kOe applied field. Measurements were done using a Quantum Design Physical Property Measurement System (PPMS) with Specific Heat option. The FM transition was found to depend on the isotope mass, which seems to agree with previous works. The CO transitions was observed as a sharp peak at the CO temperature (T_{co}), which seems to depend strongly on field, oxygen isotope mass, and thermal cycling history.

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