

Abstract Submitted  
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**Anisotropic paramagnetism in monoclinic  $\text{Nd}_2\text{Ti}_2\text{O}_7$  single crystals**<sup>1</sup> HUI XING, Zhejiang University, GEN LONG, SUNY at Buffalo, HAN-JIE GUO, YOUMING ZOU, CHUNMU FENG, GUANGHAN CAO, Zhejiang University, HAO ZENG, SUNY at Buffalo, ZHUAN XU, Zhejiang University — The anisotropic paramagnetism and specific heat in  $\text{Nd}_2\text{Ti}_2\text{O}_7$  single crystals are investigated. Angular dependence of the magnetization and Weiss temperatures show the dominant role of the crystal field effect in the magnetization. By incorporating the results from the diluted samples, contributions to Weiss temperature from exchange interactions and crystal field interactions are isolated. The exchange interactions are found to be ferromagnetic, while the crystal field contributes a large negative part to the Weiss temperature, along all three crystallographic directions. The magnetic specific heat reveals a two-level Schottky ground state scheme, due to the Zeeman splitting of the ground state doublet, and the g-factors are thus determined. These observations provide solid foundations for further investigations of  $\text{Nd}_2\text{Ti}_2\text{O}_7$ .

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