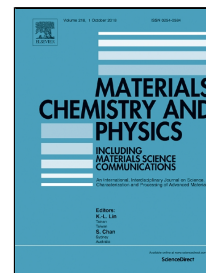


# Accepted Manuscript

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**EPR study of RE<sup>3+</sup> (RE = Nd, Gd, Dy) doped CdMoO<sub>4</sub> single crystal**

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**Abstract**

The electron paramagnetic resonance (EPR) studies of RE<sup>3+</sup> (RE = Nd, Gd, Dy) doped CdMoO<sub>4</sub> single crystals grown by Czochralski method were carried out in 4 – 300 K temperature range. Analysis of EPR spectra lineshapes and resonance field dependence on crystal orientation in an external magnetic field allowed allocate the RE<sup>3+</sup> ions to the low symmetry site of Cd<sup>2+</sup> in CdMoO<sub>4</sub> crystal. Additionally, RE<sup>3+</sup> complex magnetic entities created due to charge compensation, were registered. In the case of Nd<sup>3+</sup> doped CdMoO<sub>4</sub> crystal the values of *g* spectroscopic matrix were calculated and the influence of the excited states via the Orbach process was observed.

**Keywords:** Scheelites; EPR; RE; Magnetic dimers; Orbach process

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