

Abstract Submitted  
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**Giant Magnetocaloric Effect in the Double-perovskite Gd<sub>2</sub>NiMnO<sub>6</sub>**<sup>1</sup> JAE YOUNG MOON, MI KYUNG KIM, DONG KUN OH, SANG HYUP OH, NARA LEE, YOUNG JAI CHOI, Yonsei Univ — We have synthesized single crystal of Gd<sub>2</sub>NiMnO<sub>6</sub>(GNMO) by the Bi-flux method and investigated magnetocaloric effect in them by magnetic measurements. Magnetic susceptibility of GNMO increases smoothly as temperature decrease and ferromagnetic order occurs below 135 K, and additional anomaly show at low temperature, indicative of the onset of Gd<sup>3+</sup> spin arrangement. At the temperature, magnetic entropy change,  $-\Delta S_M$ , with the field changes of 0-9 T, calculated from isothermal M(H) data using Maxwell relation, exhibits sharp peak. This peak is gigantic and cryogenic, these make GNMO promising cryogenic magnetic refrigerant materials.

<sup>1</sup>Giant Magnetocaloric Effect in the Double-perovskite Gd<sub>2</sub>NiMnO<sub>6</sub>

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