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New layered oxochalcogenide $\text{La}_2\text{O}_2\text{Mn}_2\text{OSe}_2$ HECHANG LEI, CEDOMIR PETROVIC, Brookhaven National Laboratory — We report a new $\text{La}_2\text{O}_2\text{Mn}_2\text{OSe}_2$ and investigate its physical properties. It is a member of $\text{Ln}_2\text{O}_2\text{Tm}_2\text{OCh}_2$ (Ln= rare earth, Tm=Fe, Co, and Ch=S, Se). The structure of these compounds can be described as an alternate stacking of fluorite type $[\text{Ln}_2\text{O}_2]^{2+}$ or $[\text{A}_2\text{F}_2]^{2+}$ layers and anti- CuO_2 -type $[\text{Tm}_2\text{OCh}_2]^{2-}$ layers (anti-perovskite type). $\text{La}_2\text{O}_2\text{Mn}_2\text{OSe}_2$ is the first manganese-base compound with anti- CuO_2 -type layers. It is a ferromagnetic (FM) Mott insulator exhibiting several successive magnetic transitions. The magnetic properties are different from other compounds with this structure.

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