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Spin-lattice coupling in RMnO₃ (R=rare earth and Y) perovskites J.-Q. YAN, Ames Laboratory, R. J. MCQUEENEY, Department of Physics and Astronomy, Iowa State University, IA 50011, Y. REN, Argonne National Laboratory, J.-S. ZHOU, Texas Materials Institute, the University of Texas at Austin, J. B. GOODENOUGH, Texas Materials Institute, the University of Texas at Austin, Austin TX 78712 — The magnetic order in RMnO₃(R=rare earth and Y) perovskites is quite sensitive to the R³⁺ ionic radius. Type A magnetic order has been observed for R=Gd?La. For R=Dy and Tb, no classic magnetic order was observed down to the lowest temperature. The rest members of the family show a type E magnetic order. As far as we know, the lattice response to the magnetic order has not been systematically studied. Here we will discuss the lattice response to the magnetic order studied by synchrotron x-ray powder diffraction and thermal conductivity.

J.-Q. Yan

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