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Magnetic Properties of Quasi-One-Dimensional Ca_3LiRuO_6 and $CaFe_4As_3$ DONOVAN MYERS, AMAR KARKI, RONGYING JIN, Department of Physics and Astronomy, Louisiana State University, Baton Rouge, Louisiana 70803, USA — Needle-like Ca_3LiRuO_6 and $CaFe_4As_3$ single crystals were grown using the flux method. While the structure of Ca_3LiRuO_6 is characterized by one-dimensional chains of alternating face-sharing LiO_6 trigonal prisms and RuO_6 octahedra along the c axis, $CaFe_4As_3$ consists of edge-sharing $FeAs_4$ tetrahedra ribbons along the b axis. Despite the one-dimensional nature, magnetization measurements reveal evidence of long-range magnetic ordering: Ca_3LiRuO_6 orders ferromagnetically below $T_C = 120$ K and $CaFe_4As_3$ undergoes two successive antiferromagnetic transitions at $T_{N1} = 90$ K and $T_{N2} = 26$ K. Possible magnetic interactions will be discussed.

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