

Abstract Submitted  
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**Magnetism in the  $i$ - $R$ -Cd ( $R = Y, Gd-Tm$ ) binary quasicrystals<sup>1</sup>**

ALAN GOLDMAN, TAI KONG, ANDREAS KREYSSIG, Ames Laboratory, U.S. DOE and Department of Physics and Astronomy, Iowa State University, Ames, Iowa 50011, USA, TSUNETOMO YAMADA, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi 980-9870, Japan, HIROYUKI TAKAKURA, Division of Applied Physics, Faculty of Engineering, Hokkaido University, Sapporo, Hokkaido, 060-8628, Japan, SERGEY BUD'KO, PINAKI DAS, WAGEESHA JAYASEKARA, PAUL CANFIELD, Ames Laboratory, U.S. DOE and Department of Physics and Astronomy, Iowa State University, Ames, Iowa 50011, USA, MARC DE BOISSIEU, SIMaP, Grenoble-INP, UJF, CNRS, Saint Martin dHres Cedex,38402, France — Progress in our understanding of the consequences of aperiodicity for physical phenomena such as the electronic, magnetic, and optical properties has recently seen a surge of activity and new results. A new family of  $i$ - $R$ -Cd binary magnetic quasicrystals, exhibiting spin-glass-like behavior, and the closely related  $RCd_6$  crystalline approximants, which manifest long-range magnetic order at low temperature, offer new opportunities for studies of the impact of aperiodicity on magnetic interactions in compounds that have similar local structures. I will discuss their magnetic behavior, as well as recent x-ray diffraction and elastic magnetic neutron scattering investigations that provide some insight into their structural and magnetic properties.

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