Abstract Submitted
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Ultrafast Coherent Magnetism in Ferromagnetic GaMnAs[1] JIGANG WANG, Dept of Physics and Astronomy and Ames Laboratory, Iowa State University, M.D. KAPETANAKIS, Department of Physics, University of Crete, Heraklion, Crete 71003, Greece, I.E. PERAKIS, K.J. WICKEY, C. PIERMAROCCHI, Department of Physics & Astronomy, Michigan State University, East Lansing, Michigan, 48824, USA, XINYU LIU, J.K. FURDYNA, Department of Physics, University of Notre Dame — We reported a femtosecond collective spin tilt triggered by nonlinear, near-ultraviolet, coherent photoexcitation of (Ga,Mn)As ferromagnetic semiconductors with linearly polarized light. This dynamics results from carrier coherences and nonthermal populations excited in the (111) equivalent directions of the Brillouin zone and triggers a subsequent uniform precession.

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