Abstract Submitted
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Probing of ferroelectric and antiferromagnetic orders of multiferroic $YMnO_3$ via second harmonic generation[1] SRINIVAS POLISETTY, MIKEL HOLCOMB, CAMERON KEENAN, FELIO PEREZ, DAVID LEDERMAN, West Virginia University — The ferroelectric and antiferromagnetic properties of epitaxial, hexagonal (0001) $YMnO_3$ thin films grown on GaN/Al_2O_3 substrates were studied using second harmonic generation. A Ti:sapphire laser with a 15 W Nd:YVO_4 pump was used to generate the second harmonic signal. Above the Néel temperature, ferroelectric ordering was clearly observed as deduced from angular plots of the incoming and outgoing polarization of the second harmonic generation (SHG) signals. Additional antiferromagnetic order was identified below the Néel temperature. The ferroelectric-magnetic coupling studied via SHG will be discussed.

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