Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Uniaxial stress studies of H centers in In_2O_3[1] PHILIP WEISER, MICHAEL STAVOLA, W. BEALL FOWLER, Lehigh University, LYNN A. BOATNER, Oak Ridge National Laboratory — In_2O_3 single crystals have been grown for our experiments that are sufficiently large to make possible IR absorption measurements in conjunction with uniaxial stress. The introduction of H produces an IR line at 3306 cm^{-1} that has been assigned to the OH stretching mode of an interstitial H shallow donor in In_2O_3 [1]. We have performed IR absorption experiments in which the splitting of the 3306 cm^{-1} line under stresses applied at low temperatures provides information about the symmetry of the OH center. Stress measurements made at elevated temperatures reveal a stress-induced dichroism that provides information about the motion of hydrogen associated with the 3306 cm^{-1} center. [1] W. Yin *et al.*, Phys. Rev. B **91**, 075208 (2015).

[1]NSF Grant DMR 1160756

Philip Weiser
Lehigh University

Date submitted: 05 Nov 2015 Electronic form version 1.4