

Abstract Submitted  
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**Shear strain profile of a driven CDW probed by X-ray microbeam diffraction** A.F. ISAKOVIC, J. KMETKO, K. CIOCIK, R.E. THORNE, Physics Dept., LASSP, Cornell University, B. LAI, Z. CAI, APS, Argonne National Lab, P.G. EVANS, Materials Science and Engineering, University of Wisconsin-Madison — We have probed charge density wave (CDW) structure in stepped, whisker-like NbSe<sub>3</sub> samples with lateral variations of pinning strength by X-ray microbeam diffraction using 2-ID-D beamline at APS-ANL. The rotation of the CDW  $\mathbf{q}$ -vector on the depinned side appears above the threshold field for CDW depinning, consistent with the picture of inhomogeneous pinning. The corresponding shear strain profile is determined with a resolution of 300 nm. The results demonstrate how the magnitude of shear strains changes with the DC bias applied along the direction of CDW motion. This profile is compared with finite element modeling.

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