

Abstract Submitted  
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**Disorder in Mn doped InSb studied at the atomic scale by cross-sectional STM** PAUL KOENRAAD, SAMUEL MAUGER, JUANITA BOCQUEL, Eindhoven University of Technology, CAITLIN FEESER, NIDHI PARASHAR, BRUCE WESSELS, Northwestern University — We present an atomically resolved study of MOVPE grown Mn doped InSb. Both topographic and spectroscopic measurements have been performed by X-STM. The measurements show a perfect crystal structure and reveal that Mn acts as a shallow acceptor. The Mn concentration obtained from the cross-sectional STM data compares well with the intended doping concentration. While the pair correlation function of the Mn atoms showed that their local distribution is uncorrelated beyond the STM resolution for observing individual dopants, disorder in the Mn ion location is noted. This inhomogeneous distribution is proposed to play an important role in the magnetic behavior.

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