

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**Short-range CDW correlations in  $\text{Co}_x\text{NbSe}_2$  and  $\text{Mn}_x\text{NbSe}_2$**  J. LEE, Physics Department, Temple University, Philadelphia, PA 19122, R. DI CAPUA, Dipartimento S.pe.S., Universita degli Studi del Molise, Campobasso, and CNR-SPIN, Napoli, Italy, G. KARAPETROV, Physics Department, Drexel University, Philadelphia, PA 19104, T. NISHIZAKI, N. KOBAYASHI, Institute for Materials Research, Tohoku University, Sendai 980-8577, Japan, M. IAVARONE, Physics Department, Temple University, Philadelphia, PA 19122 — Scanning tunneling microscopy and transport measurements were performed on  $\text{NbSe}_2$  and Co- and Mn-intercalated  $\text{NbSe}_2$  single crystals, to address the effect of disorder induced on the CDW structure by the effect of intercalation. We find that the CDW transition at  $T_{CDW}=33$  K in the pure compound is accompanied by a small anomaly in resistivity, a strong non linearity of the Hall effect, with a sign reversal occurring at CDW transition, and high magnetoresistance in agreement with previous reports. The system remains metallic below the CDW transition. Upon increase of disorder the anomaly in resistivity moves at a lower temperature and eventually disappears for higher doping levels. By increasing the disorder also the magnetoresistance decreases and the Hall effect does not show any sign reversal. STM measurements on a pure sample reveal that CDW phase is long-range ordered below  $T_{CDW}$ . For doped samples short range CDW correlations dominate a large part of the phase diagram.

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Date submitted: 06 Nov 2012

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