Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Scanning Tunneling Microscopy of Defect-Induced Superstructure in 2H-$NbSe_2$ HUI WANG, JONGHEE LEE, MICHAEL DREYER, U of Maryland, College Park, BARRY BARKER, Laboratory of Physical Sciences — Scanning tunneling microscopy and spectroscopy measurements were performed on pure 2H-$NbSe_2$ with defects introduced by tip-sample interaction at 4K. Domains of a new superstructure with a lattice constant equals $\sqrt{13}a_0$ instead of $3a_0$ were observed around the defects. Closer to the defects we also observed the disordered phase of this structure. Both of them are stable under the STM measurements at 4K. Atomically resolved microscopy and spectroscopy studies suggest a 2H to 1T phase transition induced by surface atom sliding.

Hui Wang
U of Maryland, College Park

Date submitted: 04 Dec 2007 Electronic form version 1.4