Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Ordered structure upon deposition of Ge on the monolayer silicene on Ag(111) HAN-DE CHEN, DENGSUNG LIN, Department of Physics, National Tsing Hua University — The growth of monolayer silicene on Ag (111) has been a hot research in recent years. The akin structure of the same group IV element: Germanene, has also been grown successfully on different metal substrates. In this investigation, Ge has been deposited by molecular beam epitaxy on the monolayer-thick silicene grown on Ag(111). Low-temperature scanning tunneling microscopy (LT-STM) has been employed to observed the surface morphology and atomic structure. On the (3 x 3)Si phase, only one Ge adatom is found on each (3 x 3)Si unit cell on two different sites, A and B. The deposited Ge adatoms prefer to settle around a unit cell that has already incorporated one Ge adatom, thereby forming two domains (3 x 3)A and (3 x 3)B. Results on (r7 x r7)Si superstructure showing local ordering will also be presented.

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Date submitted: 04 Nov 2015 Electronic form version 1.4