

From single to multilayer germanene

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Abstract

There is a surge of works on new artificial elemental honeycomb two-dimensional materials beyond graphene, especially silicene sheets, first synthesized in 2012 on Ag(111) substrates [1], and germanene single layer ones, epitaxially grown, just very recently in 2014, on a Au(111) template [2]. The amazingly fast fabrication of a Room Temperature silicene Field Effect Transistor [3] will surely give a strong boost to research on these novel synthetic 2D materials, which do not exist in nature and which are, *per se*, directly compatible with the ubiquitous Si-based microelectronics processes.

Here, we will present further advances on germanene, possibly a 2D topological insulator robust up to nearly RT, upon reporting novel results acquired by STM and Synchrotron Radiation PhotoElectron Spectroscopy on multilayer germanene sheets [4].

References

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