

Webinar

Towards the realization of stanene on the surface of Au(111)

Maniraj Mahalingam

**Martin-Luther University Halle-Wittenberg,
Germany**

Stanene, which is a single layer of Sn atoms arranged in a graphene-like honeycomb structure, was recently predicted^[1] and has subsequently motivated intense research on the realization of Sn-based ultrathin materials. Our work reveals evidence for the formation of a stanene-like ordered superstructure of Sn atoms on the surface of Au(111)^[2]. Considering that free-standing stanene simply cannot exist, our realization of a stanene-like ordered superstructure of Sn on the Au(111) surface lays the foundation for the fabrication and investigation of ultra-thin Sn based graphene-like materials as a potential next generation two-dimensional material with scientifically interesting exotic properties, and potential future technological applications.

References:

1. Y. Xu et al., Phys. Rev. Lett. 111, 136804 (2013).
2. M. Maniraj et al., Communications Physics 2, 12 (2019).

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