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S E M I N A R
aus
Halbleiterphysik und Nanotechnologie

Mo, 28.06.2021, 11:15 Uhr, (Seminar via Zoom)

"Silicene - The 2D allotrope of silicon"

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The continuously expanding portfolio of 2D materials represents a precious set of building blocks for engineering next generation electronic and optical devices. A recent addition to this family is represented by silicene, the 2D allotrope of silicon. Similar to graphene it exhibits unique optical and electronic properties, while promising a more straightforward path of integration into the silicon dominated semiconductor industry. However, several issues concerning its complex fabrication process and intrinsic instability at ambient conditions still need to be addressed. Here, we report on the thoroughly in- and ex-situ characterisation of silicene synthesised on Ag(111) and Au(111) substrates [1-3].

[1] Genser, Jakob, et al. "Optical Signatures of Dirac Electrodynamics for hBN Passivated Silicene on Au(111)." Nano Letters (2021)

[2] Nazzari, Daniele, et al. "Highly Biaxially Strained Silicene on Au (111)." *The Journal of Physical Chemistry C* (2021).

[3] Ritter, Viktoria, et al. "Silicene Passivation by Few-Layer Graphene." *ACS applied materials & interfaces* 11.13 (2019): 12745-12751.