“Growth of two-dimensionally bonded materials – fiction, facts and surprises”

In this talk we report on the MBE growth of several combinations of two-dimensionally (van der Waals-) bonded materials. In the beginning, we refer to early work which demonstrates some of the promises, above all the ease of combining materials with different lattice constants.

The basis of our work are graphene and Sb2Te3. We grow the latter on graphene and on surfaces of Si(111) which are prepared in situ to obtain different amounts of surface bonds. Most surprisingly, the resulting surface reconstruction may influence the in-plane orientation in this process of heteroepitaxy.

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