



Séminaire exceptionnel

C2N - site de Marcoussis



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Silicene, germanene, and something in between?

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Silicene and germanene are the silicon (Si) and germanium (Ge) counterparts of graphene, which are emerging as elemental two-dimensional (2D) materials beyond graphene. In their free-standing form, silicene and germanene are predicted to host Dirac fermions, and at the same time, to behave as 2D topological insulators at experimentally accessible temperatures due to their large spin orbit coupling compared to graphene. Despite numerous theoretical studies which the first report dates back to 1994, experimental studies on these materials are still scarce. In this talk, I will introduce the results of our experimental efforts to grow silicene, germanene, and also their 2D alloy on single-crystalline substrates..