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# Co Ferromagnetic Film/Silicene Heterostructure

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## Abstract

Integration of 2D materials with ferromagnets offers a simple way for the injection, transport and detection of spin polarized current in single atom thick structures. Making such heterostructure with silicene appears to be particularly challenging due to the possible formation of silicides. In this presentation we show results of LEED, STM, spin polarized low energy electron microscopy (SPLEEM), cross sectional high resolution transmission electron microscopy (HR TEM) measurements and DFT calculations which reveal that the planar form of silicene supports epitaxial growth of ultrathin ferromagnetic Co films. The obtained heterostructure is stable at room temperature without destruction of the silicene layer.

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