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Epitaxial Ferromagnet on Ge(111) : Mn_5Ge_3 MICHAEL HOCHSTRASSER, DANILO PESCIA, ETH Zurich, ROY WILLIS, The Pennsylvania State University, IVANA VOBORNIK, GIANCARLO PANACCIONE, GIORGIO ROSSI, TASC, INFM-CNR — Magnetic materials used for recording and reading information involve the use of the electron spin, while semiconducting devices normally take advantage of the electron charge. Recently, a big effort has been made in adding the spin degree of freedom to conventional semiconductors. A good potential candidate for spin injection in a silicon- compatible semiconductor are Mn_5Ge_3 thin films on Ge(111) [1]. To further gain information on the usefulness of possible spintronics applications of Mn_5Ge_3/Ge(111) multilayers angle resolved photoemission spectroscopy (ARPES) was employed to map the band dispersion of Mn_5Ge_3 films on Ge(111) above and below the Curie temperature. Furthermore, we performed temperature dependent x-ray magnetic dichroism measurements of Mn_5Ge_3 films on Ge(111) to probe the magnetic properties of Mn_5Ge_3. [1] C. Zeng *et al.*, *Appl. Phys. Lett.* **83**, 5002 (2003).

Michael Hochstrasser
ETH Zurich

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