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**Spin-Valve Effect at Organic-Ferromagnetic Interfaces** NICOLAE

ATODIRESEI, VASILE CACIUC, STEFAN BLÜGEL, Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich and JARA, D-52425 Jülich, Germany — The ability to reliably describe the electronic properties of carbon-based materials adsorbed on magnetic surfaces is essential to understand and assist the engineering of functionalities in hybrid organic spintronic devices. Based on the density functional theory, we performed theoretical studies [1-4] to understand how to tailor the magnetic properties of hybrid organic-ferromagnetic interfaces by adsorbing organic materials containing  $\pi$ -electrons onto several magnetic substrates. For such hybrid systems, the magnetic properties like molecular magnetic moments and their spatial orientation, spin-polarization and the magnetic exchange coupling can be specifically tuned by an appropriate choice of the organic material. \*Email: n.atodiresei@fz-juelich.de [1] N. Atodiresei et al., MRS Bulletin 39, 596 (2014). [2] J. Brede et al., Nat. Nanotech. 9, 1018 (2014). [3] K. V. Raman et al., Nature 493, 509 (2013). [4] M. Callsen et al., Phys. Rev. Lett. 111, 106805 (2013).

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