

HL 11 Invited Talk Bauer

Time: Tuesday 10:15–11:00

Room: HSZ 01

Invited Talk

HL 11.1 Tue 10:15 HSZ 01

Spin accumulation dynamics in semiconductors close to ferromagnetic contacts — ●GERRIT E.W. BAUER — TU Delft

In recent experiments the spin accumulation electrically injected into semiconductors has been spatially imaged by Faraday or Kerr rotation spectroscopy [1,2]. Here I will review a theory for the spin accumulation that acquires a time-dependence through proximity of ferromagnets and applied magnetic fields [3]. It is shown that the experiments provide important insights into the nature of the spin injection and the semiconductor-ferromagnet interface.

[1] J. Stephens, J. Berezovsky, J.P. McGuire, L.J. Sham, A.C. Gossard, D.D. Awschalom, Phys. Rev. Lett. 93, 097602 (2004)} [2] S.A. Crooker, M. Furis, X. Lou, C. Adelman, D.L. Smith, C.J. Palmstrom, P.A. Crowell, Science 309, 2191 (2005)} [3] G.E.W. Bauer, Y. Tserkovnyak, A. Brataas, J. Ren, K. Xia, M. Zwierzycki, and P. J. Kelly, Phys. Rev. B 72,155304 (2005)}