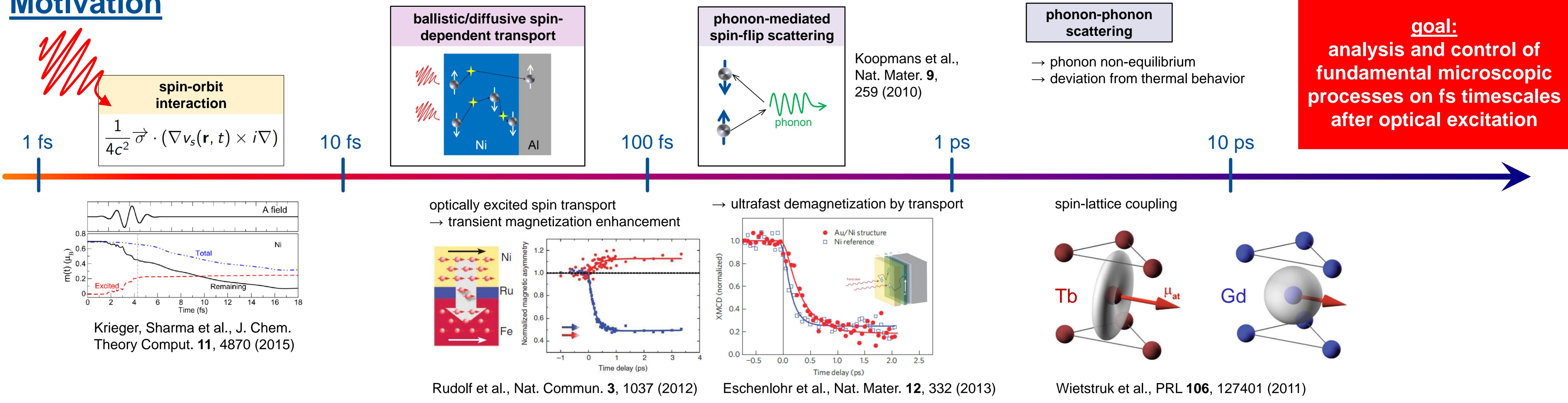


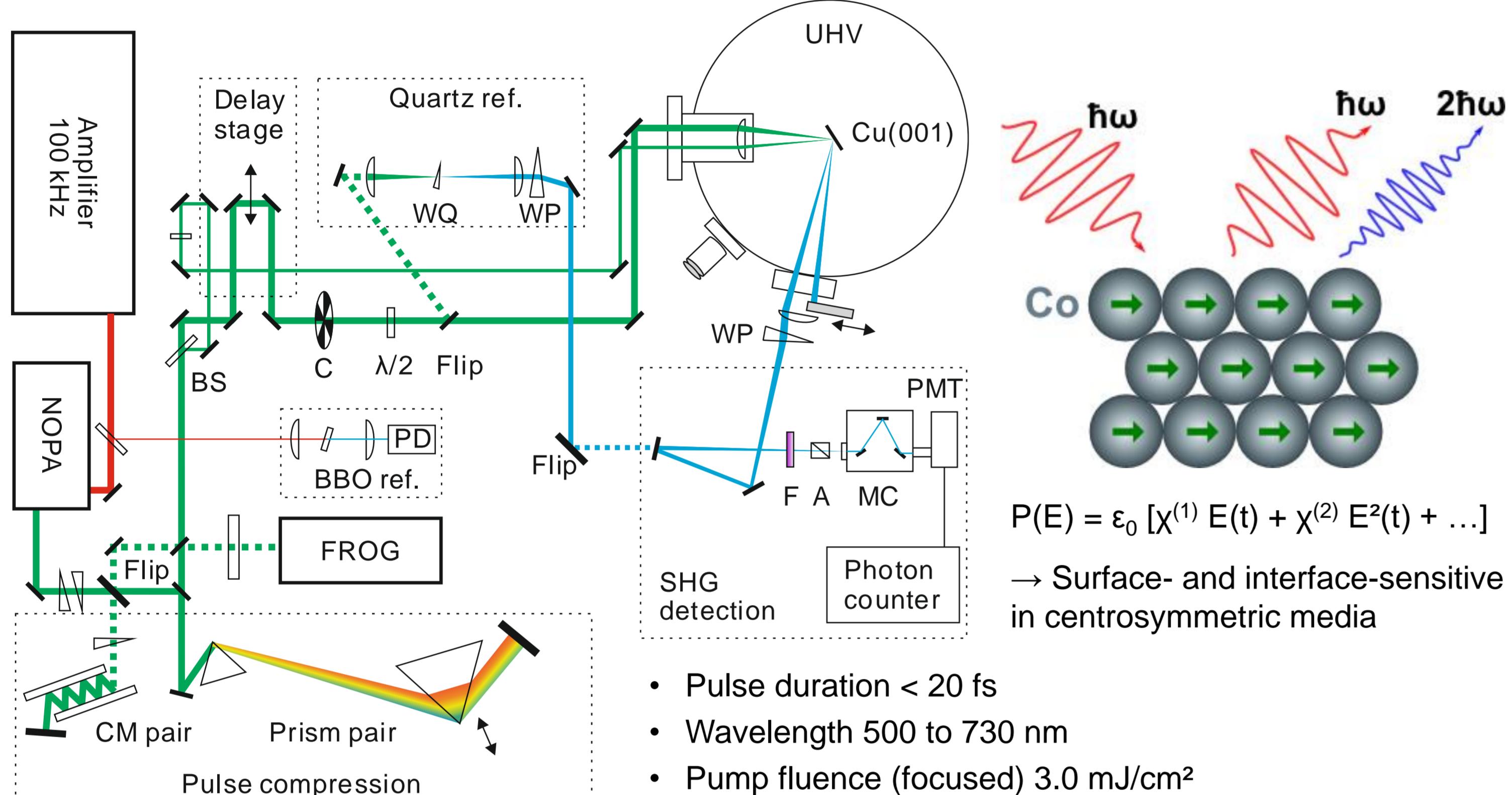
Faculty of Physics and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Lotharstr. 1, 47057 Duisburg, Germany

Motivation

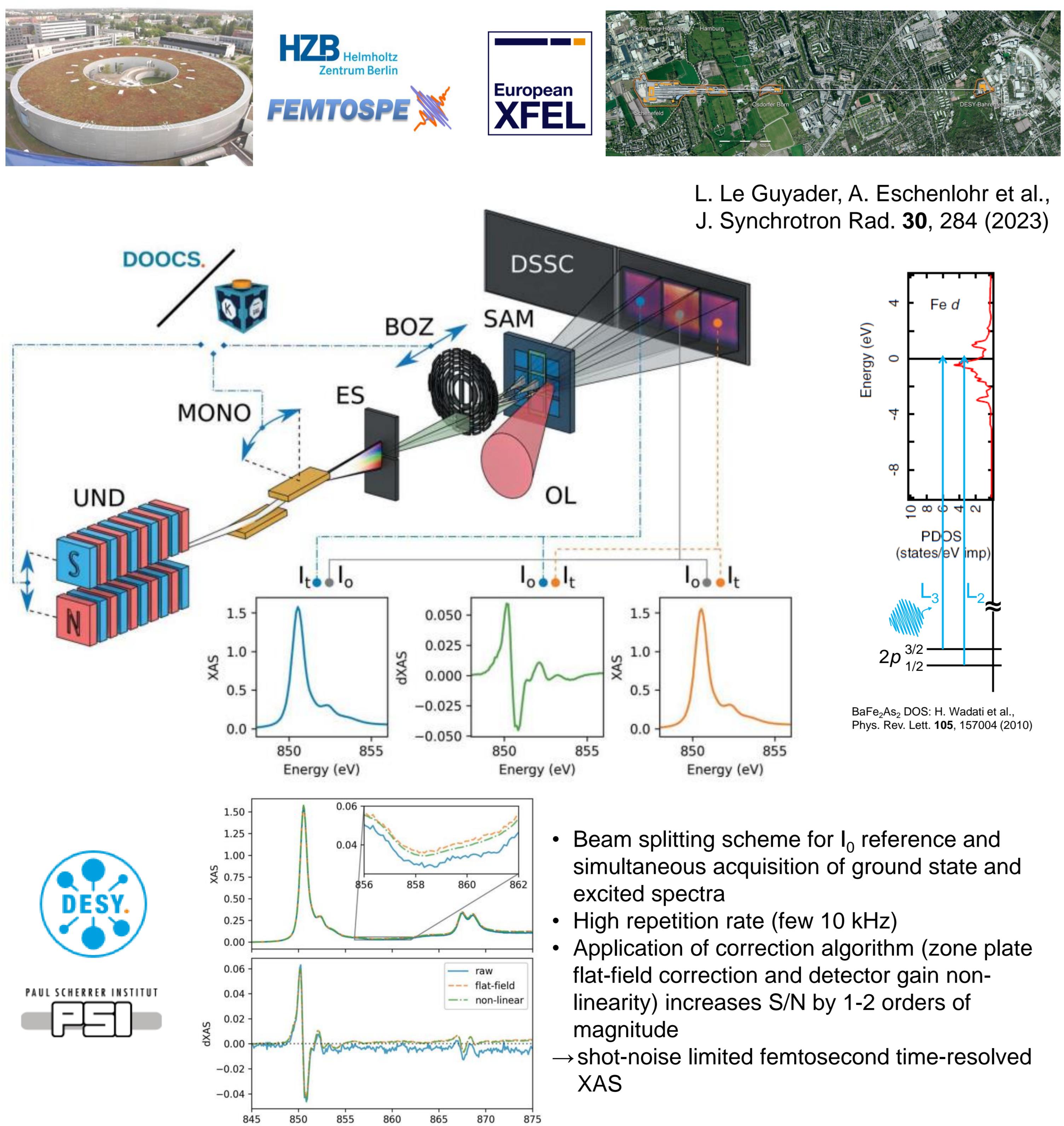


Experimental methods

Time-resolved second harmonic generation (SHG) spectroscopy:

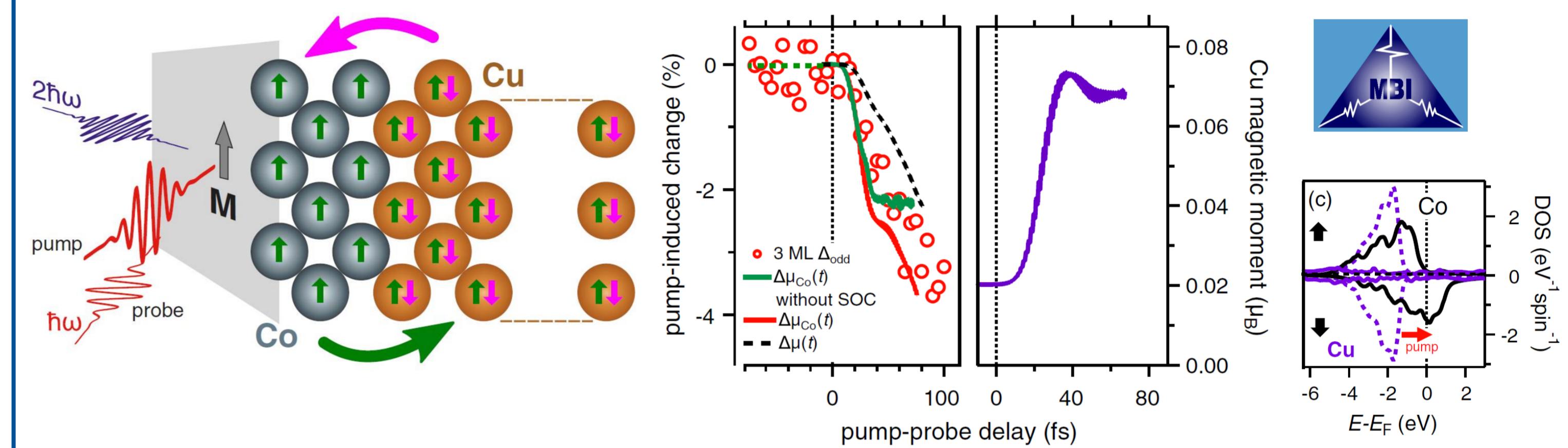


Time-resolved x-ray absorption (XAS) spectroscopy:



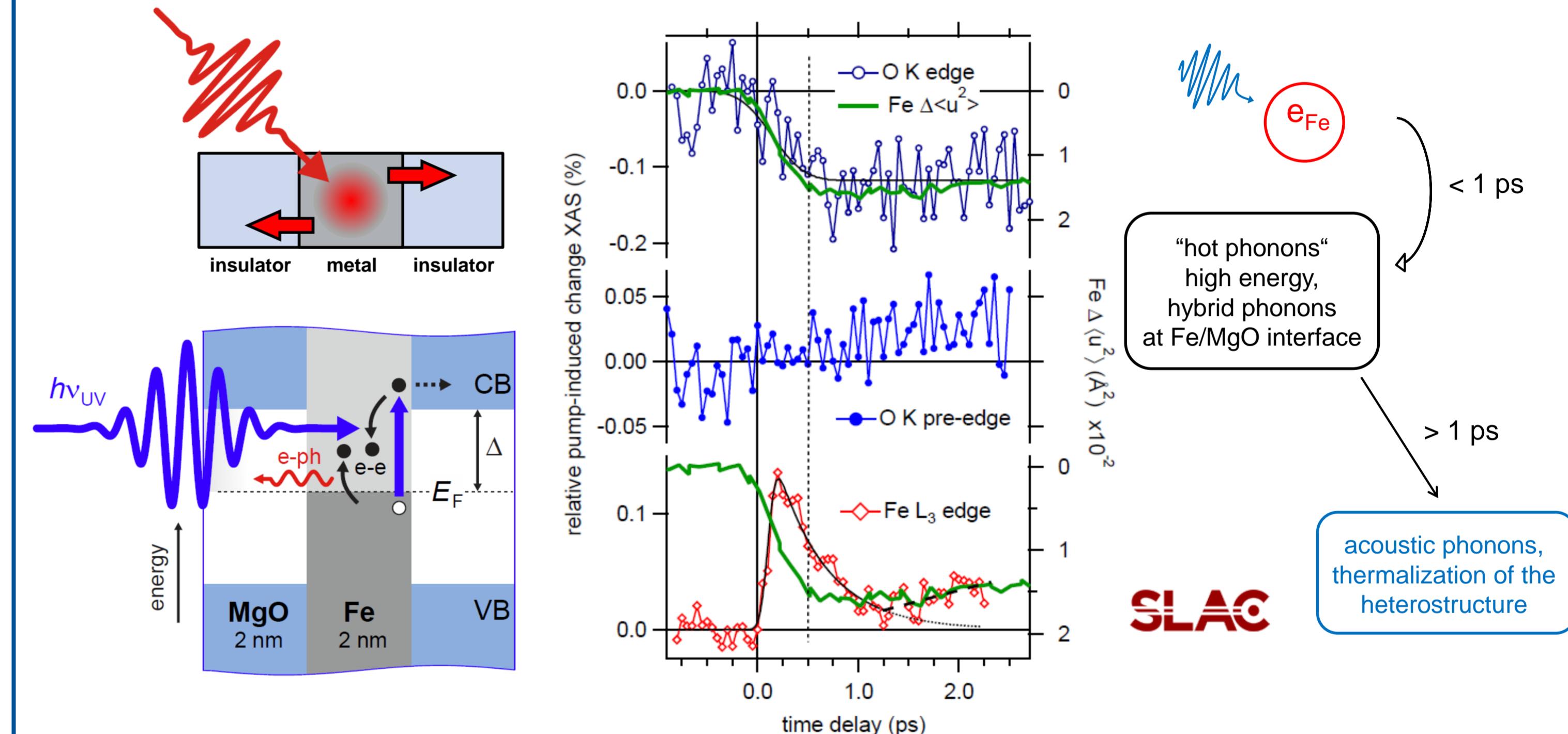
Selected results

Competing spin transfer and spin-orbit coupling mediated dissipation at Co/Cu(001) interfaces on femtosecond timescales:



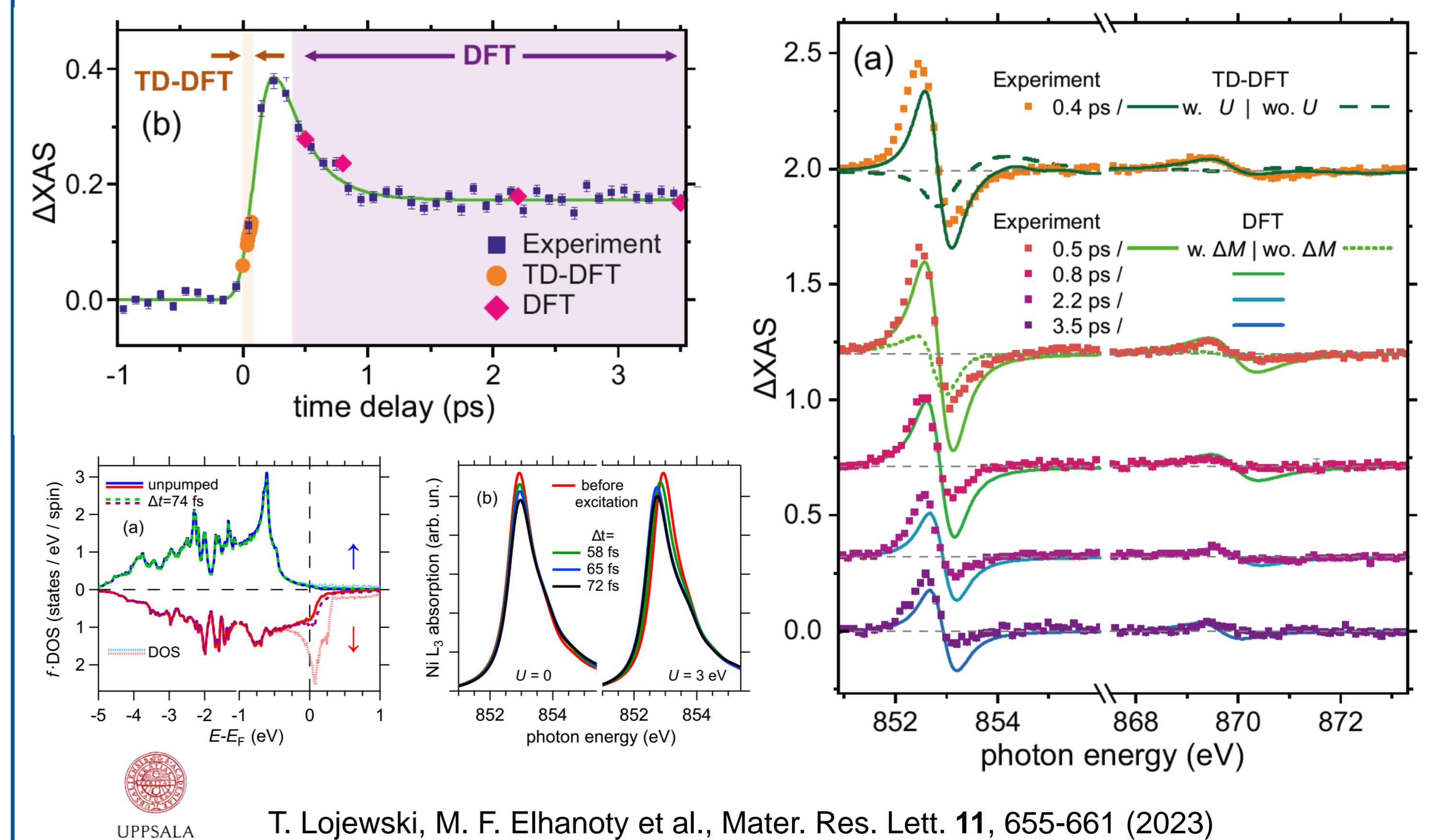
J. Chen et al., Phys. Rev. Lett. 122, 067202 (2019)
P. Elliott et al., Adv. Mater. Interfaces 9, 2201233 (2022)

Microscopic non-equilibrium energy transfer dynamics in a photoexcited metal/insulator heterostructure:



N. Rothenbach et al., Phys. Rev. B 100, 174301 (2019)
N. Rothenbach et al., Phys. Rev. B 104, 144302 (2021)

Interplay of local correlations and non-equilibrium spin dynamics:



T. Lojewski, M. F. Elhanaty et al., Mater. Res. Lett. 11, 655-661 (2023)