The control of the magnetic properties of nanosized heterostructures (films and particles) has been expanded to include photoactive Fe-based spin crossover materials (top panel) [1] and to employ the ferromagnet CoCr-PBA as shells of different thicknesses on the photoactive CoFe-PBA core (bottom panel) [2]. These new approaches reveal the dynamics (top panel) and the nominal depth to which the magnetostructural effects penetrate the ferromagnetic component (bottom panel). The results provide an understanding of the interface mechanisms and a basis for exploring the photocontrol in new heterostructures with different photoactive constituents.


PBA = Prussian blue analogue
This interdisciplinary research involves long-standing intramural (UF Physics-Chemistry and NHMFL) and international (Centre of Low Temperature Physics, Košice, Slovakia) collaborations.

The training of graduate and undergraduate students involves hands-on laboratory experiences and visits to national (e.g. ORNL and NHMFL) and international facilities and meetings.

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