



Figure 2: Comparison between FORC diagrams produced with dipole and micromagnetic models. a) Dipole model; FORC diagram (SF=4) for a non-interacting ensemble of idealised (size-independent) SD greigite particles obtained using the model of Valdez-Grijalva and Muxworthy (2018). b) Micromagnetic model; FORC diagram (SF=4) for a non-interacting ensemble of 30 nm truncated octahedral greigite particles. Up to 48 nm, the FORC diagram is that of an ensemble of coherently rotating SD moments. For particles larger than 48 nm, magnetic vortex effects become important. Dashed contour lines denote negative  $\rho$  values.