

Description of Additional Supplementary Files

Supplementary Video 1. SHG images of DW dynamics. SHG images of an antiphase DW after left or right circularly polarized pump excitation. The pump-probe time delay (in ps) is displayed at the bottom. The additional bright diagonal lines correspond to scattering from terraces on the cleaved sample surface.

Supplementary Video 2. Dynamics of the DW shape. Fitted dynamics of the two-dimensional DW shape for circularly polarized pumping. The solid curves are fits to a Voigt profile. The pump-probe time delay is given in the top right corner.

Supplementary Video 3. Simulated dynamics of the DW profile. Simulation of the one-dimensional DW profile for different initial conditions of the Néel vector angular velocity.