Supplementary Materials for:

Size-dependent Dislocation-twin Interactions

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Supplementary Materials Content:

1. Supplementary Captions for Movies S1 and S2

2. Supplementary Figure S1

Supplementary Materials: Movie Caption

Movie S1. MD simulation of dislocation-twin interaction involving a 4-layer twin.

Movie S2. MD simulation of dislocation-twin interaction involving a 2-layer twin.



Supplementary Figure S1. Atomistic models for simulating the interaction between a perfect edge dislocation *DC* and a nanoscale coherent twin. a. Low loading-stress configuration with free low-energy {111} surfaces and deformation imposed by dislocation pile-up. b. High loading-stress configuration with periodic boundaries on x-axis, and deformation imposed by uniform tension along z axis. In both models, dislocations are introduced by a fixed dislocation source at the bottom edge. Transmission energies are computed from atoms inside the dashed frame. Note that a second dislocation with opposite Burgers vector is generated on the left-hand side of the model during dislocation nucleation process; however, its downward glide does not interfere with the twin and is inconsequential for the transmission energy calculation. Atoms in HCP and FCC arrangements appear in red and grey colors, respectively, and those belonging to free surfaces and dislocations in blue color.