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High Density, High Velocity Sliding for Ta, Al Interfaces[1] RAMON RAVELO, University of Texas-El Paso, T.C. GERMANN, J.E. HAMMERBERG, Los Alamos National Laboratory — The high density, high velocity behavior of ductile metal sliding has been investigated for Ta/Al, Al/Al, and Ta/Ta interfaces for pressures of order 10-20 GPa for a range of sliding velocities from 0.01-1.0 km/s. We discuss the plastic deformation and microstructural evolution manifested in large-scale ($\approx 10^6$ atoms) NEMD simulations using an optimized set of Ta, Al, and Ta-Al EAM potentials, and in particular the velocity weakening observed at high velocities of sliding.

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