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Atomistic simulation of plastic deformation in metallic nanowires
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USA — Plastic deformation in metallic nanowires was studied by atomistic sim-
ulations using empirical interatomic potentials based on embedded atom method
(EAM). Several factors affecting the results of the deformation simulation such as
temperature effect and the accuracy of the EAM potentials have been investigated.
Deformation structures of Cu, Al and Au 100 nanowires after their yield point
were analyzed and compared with each other. We found that metals with different
stacking fault (SF) energy behavior differently during the plastic deformation at
nanoscale. Furthermore deformation behavior of the nanowires under compression
and tension were also compared.

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