

Nanotwin-mediated deformation in metals

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The introduction of nanoscale coherent twin boundaries (TBs) can be an effective strategy to achieve desirable strength while maintaining substantial ductility and work hardening of metallic materials. In this talk, I will present our recent studies on twin-mediated deformation in metals, including extra strengthening in gradient nanotwinned metals, extreme shear deformability of twin boundary, and twin-mediated dynamic adjustment of GB mobility in nanocrystals.

About the speaker:

Haofei Zhou is now an assistant professor in Zhejiang University. Haofei Zhou received his Ph.D. in Solid Mechanics from Zhejiang University in 2013, and B.S. in Engineering Mechanics from Zhejiang University in 2008. Upon finishing a term of postdoctoral training at Tsinghua University, Dr. Zhou joined the School of Engineering at Brown University as a postdoctoral research associate in 2015. Haofei Zhou joined Zhejiang University in Sept. 2018.

Dr. Zhou's current research goal is to understand physical mechanisms underlying the unprecedented properties of nanostructured materials using multiscale computational approaches in close concern with experimental investigations, and to provide insights into the design of next generation engineering materials. His research has led to the discovery of new deformation mechanisms responsible for a wide range of unique mechanical properties in nanostructured metals and alloys.