JMR-2018-0678 videos

This manuscript contains supplemental video materials.

**Supplemental Videos** <https://www.youtube.com/playlist?list=PLWgSKgye275Dtnwyzu1cmM8osmN1c5UWh>

Video 1.

Cyclic loading/unloading pre-deformation on a-CuZr pillar with a diameter of 1 m. The *in situ* micropillar compression video includes both *in situ* morphology change under SEM and the corresponding load-displacement curve (speed3).

Video 2.

Comparison of serrated flow of untapped and pre-tapped a-CuNb pillars with a diameter of 1 m during compression. The *in situ* micropillar compression video includes both *in situ* morphology change under SEM and the corresponding load-displacement curve (speed3).

Video 3.

Comparison of serrated flow of untapped and pre-tapped a-CuZr pillars with a diameter of 1 m during compression. The *in situ* micropillar compression video includes both *in situ* morphology change under SEM and the corresponding load-displacement curve (speed3).

Video 4.

*In situ* micropillar compression test of Cu1m/a-CuNb2m/Cu1m trilayer. The video includes both *in situ* morphology change under SEM and the corresponding load-displacement curve (speed4).

Video 5.

*In situ* micropillar compression test of Cu/a-CuNb 150 nm multilayers. The video includes both *in situ* morphology change under SEM and the corresponding load-displacement curve (speed4).