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Nanoindentation measurements on a torsionally deformed

$\text{Zr}_{44}\text{Ti}_{11}\text{Cu}_{10}\text{Ni}_{10}\text{Be}_{25}$ bulk metallic glass

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Abstract: Nanoindentation measurements were performed on as-cast and torsionally deformed $\text{Zr}_{44}\text{Ti}_{11}\text{Cu}_{10}\text{Ni}_{10}\text{Be}_{25}$ bulk metallic glass samples. Distribution of the measured hardness values shows peak-increasing and widening as an effect of the plastic pre-deformation. Variation in the strength of the deformation affected material and the origin of strain hardening is explained by key characteristics of shear transformation zones in bulk metallic glasses.

Key words: strain hardening, bulk metallic glass, shear bands, nanoindentation, residual stresses

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