

Abstract Submitted  
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**An SEM study on the effect of strain rate on the deformation process of amorphous Cu-Nb alloy thin films using nanoindentation**  
STEPHEN MYERS, Tarleton State University, SUMAN VADLAKONDA, REZA MIRSHAMS, RAJARSHI BANERJEE, University of North Texas — Deformation mechanisms in amorphous alloys have been a topic of great interest recently. Applying different strain rates during nanoindentation using cubecorner indenter tips has shed much light on the mechanisms of deformation in amorphous Cu-Nb thin films. Transformation of a serrated load-displacement curve to a smoother curve with an increase in strain rate has been attributed to the change from discrete to homogeneous plasticity in recent studies. In order to have a better understanding of the deformation mechanisms and to study shear band formation on the surface, a detailed study is done using scanning electron microscopy. Indentation is done at three different strain rates on amorphous Cu-Nb alloy thin films. An attempt is being made to determine a close relation between the surface characteristics and the load - displacement curve.

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