

# ORIGIN OF LOW TEMPERATURE DUCTILITY OF INTERMETALLICS

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**ABSTRACT-** Intermetallic compounds in general are brittle at low temperatures due to insufficient independent slip systems or low grain boundary cohesion. The present paper reports on the deformation of YCu and YAg showing that despite of violating the von Mises criterion these B2-structured intermetallic transition metal compounds are extremely ductile down to 130 K and 4 K, respectively. Based on a thorough thermal activation analysis the reasons for this unexpected behavior are discussed, like low elastic anisotropy, low Peierls stress and martensitic transformation.