SM4L_11885

XXI International Congress of Theoretical and Applied Mechanics
Warsaw, Poland, August 15–21, 2004

A CDM Approach of Ductile Damage with Plastic Volume Changes

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Continuum Damage Mechanics approaches for ductile damage are revisited in order to incorporate plastic volume changes in conformation with micromechanics based approaches. The theory is still consistent with a general thermodynamic framework and allows the possibility for damage anisotropy as well as damage deactivation effects. Systematic comparisons are made for various multiaxial loading conditions and some applications are shown in the context of metal forming simulation.

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