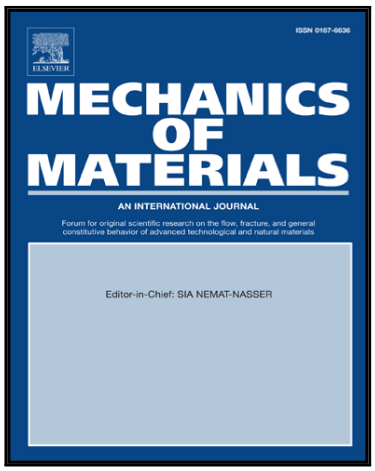

Numerical modeling of the effective ductile damage of macroporous alumina

Vincent LE CORRE , Nadège BRUSSELLE-DUPEND , Maxime MOREAUD

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Highlights :

- The ductile damage mechanisms of a macroporous alumina are investigated by Finite Element Method on a wide range of stress triaxiality ratio
- The microstructure geometry including non-convex pores is closely transcribed from Scanning Electron Microscopy images to mesh
- The calculated yield surface of the porous Drucker-Prager matrix under negative mean stress presents a closed-form which is consistent with the shape identified experimentally
- The overall yield surface is qualitatively the same closed-form as those obtained in literature for isotropic porous media containing spherical voids