

Abstract Submitted
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Dynamic fracture and failure of silica glass: Void nucleation and growth QI AN, School of Earth and Space Sciences, University of Science and Technology of China, SHENG-NIAN LUO, AARON KOSKELO, Los Alamos National Laboratory — We investigate dynamic fracture and failure of isotropic silica glass using classical molecular dynamics simulations, under both constant strain rate and shock wave loading. Two- and three-dimensional glasses were subjected to uniaxial and isotropic strains. We characterized the fracture and failure processes by following the nucleation and growth of nanovoids. The temporal and spatial evolutions of voids were quantified, and connected to classical nucleation and growth theories for fracture.

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