My finite element code uses 8-node hexahedral elements with one-point integration and both viscous and stiffness hourglass control schemes. The advantages and numerical implementation of the method are described in detail in Ma and Liu (2006). The code has been validated to propagate both elastic and anelastic waves accurately in simple 1D velocity structure (Ma and Liu, 2006) and when nontrivial surface topography is present (Ma et al., in press). The fault boundary condition follows closely the split-node scheme of Andrews (1999), which is equivalent to Day et al. (2005). Due to the flexibility of the finite element scheme, this code can model dynamic rupture on geometrically complex faults in heterogeneous velocity structure with realistic intrinsic attenuation and surface topography.

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