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3D Path Independent Integral for Thermoelastic and Magnetostriction Problem

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Highlights:

- A new 3D J integral expression derived for coupled field problem of thermoelastic and magneto-elastic strain
- The integral is applicable for ferromagnetic and magneto-ceramic materials
- The multiphysics problem concerning the crack growth behaviour is encountered in a current carrying medium with possibility of simultaneous heat generation and induction of magnetic field.
- Numerical simulations have been carried out to demonstrate the efficacy of the 3D J integral characterizing the crack growth behaviour in magnetostrictive material.

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