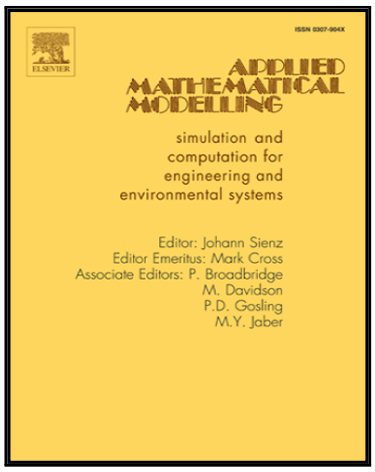

A generalized probabilistic edge-based smoothed finite element method for elastostatic analysis of Reissner–Mindlin plates

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Highlights

- A novel generalized probabilistic edge-based smoothed finite element method (GP_ES-FEM) is proposed;
- The edge-based smoothing technique is applied for stochastic analysis of Reissner-Mindlin plate;
- The approach improves the numerical accuracy of deterministic output quantities;
- It overcomes the drawbacks of conventional 2^{nd} order perturbation approach with small perturbations;
- Numerical examples verified the advantages of higher order perturbations for large input variability.