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Global mode method for dynamic modeling of a flexible-link flexible-joint manipulator with tip mass

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Highlights

- The global mode method for a signal flexible-link flexible-joint manipulator.
- Global mode shapes are used to discrete the nonlinear PDEs of the system.
- The nonlinear dynamical model with multi-degree-of-freedom is established.
- A comparison of the global mode method is performed with FEM.
- The nonlinear dynamic responses are presented for three simulation examples.

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