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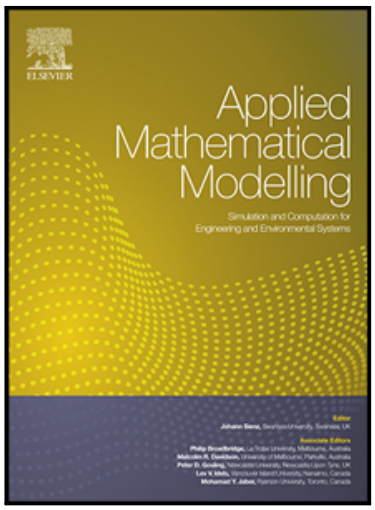

Investigation of Electromechanical Coupling Torsional Vibration and Stability in a High-Speed Permanent Magnet Synchronous Motor Driven System

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Highlights

- Electromagnetic excitation was derived by using Maxwell theory.
- The electromechanical coupled mechanism was revealed based on the natural frequency modulation.
- The nonlinear torsional equation and mechanism were validated by experimental results
- Some analytical resonance characteristics were investigated and confirmed by numerical studies.

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