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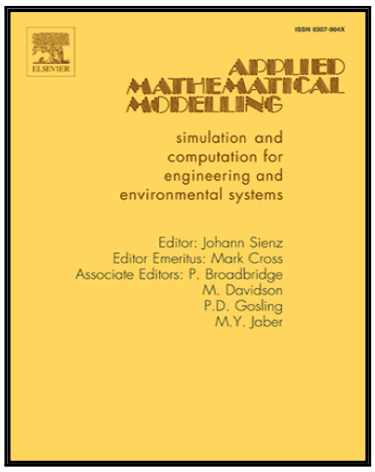

Analytical and numerical solution to the nonlinear cubic Duffing equation: an application to electrical signal analysis of distribution lines

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Highlights

- A solution to the cubic Duffing equation for an electrical signal is proposed.
- A stability analysis is performed and the fixed are discussed.
- The degree of nonlinearity of the measured current intensity is found.
- The commercial distribution line has the greatest deviation from linearity.

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