Accepted Manuscript

A novel interval finite element method based on the improved interval analysis

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PII: S0045-7825(16)31129-X
DOI: http://dx.doi.org/10.1016/j.cma.2016.09.009
Reference: CMA 11121

To appear in: *Comput. Methods Appl. Mech. Engrg.*

Received date: 9 December 2015
Revised date: 2 August 2016
Accepted date: 12 September 2016

Please cite this article as: A. Sofi, E. Romeo, A novel interval finite element method based on the improved interval analysis, *Comput. Methods Appl. Mech. Engrg.* (2016), http://dx.doi.org/10.1016/j.cma.2016.09.009

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Highlights (for review)

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- Static analysis of linear-elastic structures with interval parameters is addressed
- An Interval Finite Element Method based on the improved interval analysis is proposed
- Approximate explicit bounds of displacements and stresses are derived
- Structures with many uncertainties and large deviation amplitudes can be analyzed
- The accuracy of the method is not affected by the mesh size

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