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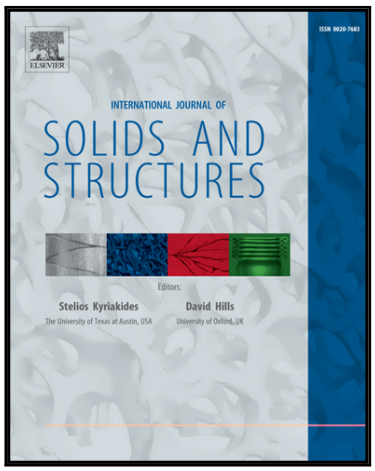

Perturbation-based Stochastic Multi-scale Computational Homogenization Method for Woven Textile Composites

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PII: S0020-7683(15)00392-3
DOI: 10.1016/j.ijsolstr.2015.09.008
Reference: SAS 8903

To appear in: *International Journal of Solids and Structures*

Received date: 15 April 2015
Revised date: 19 August 2015
Accepted date: 7 September 2015

Please cite this article as: X.-Y. Zhou, P.D. Gosling, C.J. Pearce, Z. Ullah, L. Kaczmarczyk, Perturbation-based Stochastic Multi-scale Computational Homogenization Method for Woven Textile Composites, *International Journal of Solids and Structures* (2015), doi: 10.1016/j.ijsolstr.2015.09.008

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Highlights

- A stochastic homogenization method is proposed for the prediction of statistics of effective material properties for textile composites.
- Finite element implementation procedure is given for the computational multi-scale homogenisation method.
- The statistics of effective elastic properties are obtained using the perturbation-based method.
- The proposed methodology is validated through numerical study.

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