A polygonal finite element method for laminated composite plates

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PII: S0020-7403(17)31748-4
DOI: 10.1016/j.ijmecsci.2017.09.032
Reference: MS 3943

To appear in: *International Journal of Mechanical Sciences*

Received date: 28 June 2017
Revised date: 1 September 2017
Accepted date: 19 September 2017

Please cite this article as: Nam V. Nguyen , Hoang X. Nguyen , Duc-Huynh Phan , H. Nguyen-Xuan , A polygonal finite element method for laminated composite plates, *International Journal of Mechanical Sciences* (2017), doi: 10.1016/j.ijmecsci.2017.09.032

Highlight

- A polygonal finite element method (PFEM) based on C^0-type higher-order shear deformation theory (C^0-HSDT) is proposed for static and free vibration analyses of laminated composite plates.
- A piecewise-linear shape function which is constructed based on sub-triangles of polygonal element is considered.
- A simple numerical integration over polygonal elements is devised.
- Shear locking is addressed by a simple Timoshenko's beam model.
- The numerical results show the efficiency and reliability of the present approach.