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A polygonal finite element method for laminated composite plates

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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.

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