# Development of the dkmt element for error estimation in composite plate structures

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Abstrak

This paper presents an application of the Discrete Kirchhoff-Mindlin Triangular (DKMT) element for error estimation in composite structures. The DKMT element passed the patch tests and gave good results in many plate bending applications. The DKMT element formulation in composite application uses the same technique as the Discrete Kirchhoff-Mindlin Quadrilateral (DKMQ) composite introduced. The benchmark tests for composite plates have been analyzed, as validation, using the methods employed by Srinivas (1973) and Pagano (1970). The DKMT plate bending element gave a good performance in convergence tests and can be used as one of tools in analyzing composite structures. Moreover, error estimation using various recovery methods such as Averaging, Projection and Superconvergent Patch Recovery (SPR) has been studied. All recovery methods used give similar results.