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MODIFIED SPECHT'S PLATE BENDING ELEMENT AND ITS CONVERGENCE ANALYSIS *

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Abstract. This paper discusses Specht's plate bending element, shows the relationships between $\int_{F_\rho} w\,ds$ or $\int_{F_\rho} \frac{\partial w}{\partial n}\,ds$ and the nodal parameters (or degrees of freedom), further it sheds lights on the construction methods for that element, and finally it introduces a new plate bending element with good convergent properties (which passes the F-E-M-Test (cf.[11])) is derived.

Key words. interpolation, nonconforming finite element, Specht's element.

AMS subject classifications. 41A05, 65D05, 65N30.

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