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REMARKS ON THE CIARLET-RAVIART MIXED FINITE ELEMENT*

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Abstract. This paper derives a new scheme for the mixed finite element method for the biharmonic equation in which the flow function is approximated by piecewise quadratic polynomial and vortex function by piecewise linear polynomials. Assuming that the partition, with triangles as elements, is quasi-uniform, then the proposed scheme can achieve the approximation order that is observed by the Ciarlet-Raviart mixed finite element when approximating the flow function and the vortex functions by piecewise quadratic polynomials.

Key words. Ciarlet-Raviart mixed finite element, biharmonic problem.

AMS subject classification. 65L60.

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