A VIRTUAL ELEMENT METHOD FOR THE ELASTICITY SPECTRAL PROBLEM ALLOWING FOR SMALL EDGES

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Abstract. In this talk we present a virtual element method for the two dimensional elasticity spectral problem, where the polygonal meshes allow for the presence of small edges. Under this approach and with the aid of the theory of compact operators, we prove convergence for the proposed VEM and error estimates. We report a series of numerical tests in order to assess the performance of the method where we analyze the effects of the Poisson ratio on the computation of the order of convergence, together with the effects of the stabilization term on the arising of spurious eigenvalues.

Keywords: Elasticity equations, eigenvalue problems, error estimates, virtual element method.

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