

A POSTERIORI VIRTUAL ELEMENT METHOD FOR THE ACOUSTIC VIBRATION PROBLEM

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ABSTRACT. In this talk, we present a two dimensional analyze of an a posteriori error estimator for the acoustic spectral problem based on the virtual element method in $H(\text{div}; \Omega)$. Introducing an auxiliary unknown using the fact that the primal formulation of the acoustic problem is equivalent to a mixed formulation, in order to prove a superconvergence result, necessary to dispise high order terms. Under the virtual element approach, we prove that our local indicator is reliable and globally efficient in the L^2 -norm. We provide numerical results to evaluate the performance of the proposed error estimator.

Keywords: virtual element method, acoustic vibration problem, polygonal meshes, a posteriori error estimates.

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