AN ADAPTIVE GRADIENT-DWR FE ALGORITHM FOR AN OPTIMAL CONTROL CONSTRAINED PROBLEM

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Abstract. We present an adaptive finite element algorithm for the numerical approximation of distributed control constrained problems governed by second order elliptic PDEs. The algorithm is based on a suitable co-operation between a gradient type descent numerical scheme and the dual weighted residual (DWR) method. We assess its efficiency on several test problems and compare its performances with the ones of the well-known residual based adaptive algorithm, see e.g. [?, ?].

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