



UNIVERSIDAD TÉCNICA
FEDERICO SANTA MARÍA

DEPARTAMENTO
DE MATEMÁTICA

Próximo Seminario DMAT

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A posteriori error estimates for a bang-bang optimal control problem

We propose and analyze a posteriori error estimates for a control-constrained optimal control problem with bang-bang solutions. We consider a solution strategy based on the variational approach, where the control variable is not discretized; no Tikhonov regularization is made. We design, for the proposed scheme, a residual-type a posteriori error estimator that can be decomposed as the sum of two individual contributions related to the discretization of the state and adjoint equations. We explore reliability and efficiency properties of the aforementioned error estimator. We illustrate the theory with numerical examples.