

# FE Error Estimates for Semilinear Parabolic Control Problems in the Absence of the Tikhonov Term

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We study the FE discretization of a semilinear parabolic optimal control problems without the Tikhonov term. Based on a specific second-order sufficient optimality condition an a priori error estimates are derived. The error estimates can be significantly improved for optimal controls with a bang-bang structure. The theoretical results are illustrated by numerical experiments.

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