

Optimal control of a parabolic equation involving a singular arc

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In this talk we develop a theory of singular arc, and the corresponding second order necessary and sufficient conditions, for the optimal control of a semilinear parabolic equation with scalar control applied on the r.h.s. We obtain in particular an extension of Kelley's condition, and the characterization of a quadratic growth property for a weak norm.

References. J.F. Bonnans: *Optimal control of a semilinear parabolic equation with singular arcs*. Rapport de Recherche INRIA 8099, October 2012. (available on the Hal-Inria website).