Runge-Kutta Discretizations of Optimal Control Problems *

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Abstract. Nonlinear optimal control problems are often posed in an infinite dimensional setting where the controls may be functions of time that are either bounded or integrable. In order to obtain numerical solutions, the infinite dimensional problem must be discretized and replaced by an approximating finite dimensional problem. During the past 20 years, a rigorous theory has developed to analyze the error associated with various discretization processes. A survey is given of results for the error associated with Runge-Kutta discretizations.

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