



# Tracking Control of General Nonlinear Systems by a Direct Gradient Descent Method

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Received: September 8, 2003;    Revised: June 15, 2004

**Abstract:** This paper is concerned with tracking control of nonlinear multi-variable systems whose relative degree is more than one. The control method is based on a direct steepest descent method using the gradient of a performance index. Simulation results demonstrate the usefulness of the proposed method.

**Keywords:** *Nonlinear control; state feedback; output feedback; tracking system; gradients; steepest descent; Lyapunov stability.*

**Mathematics Subject Classification (2000):** 93B52, 93C10, 90C48, 49K40, 93D05.