Luca Consolini* (`luca.consolini@polirone.mn.it`) and **Mario Tosques** (`mario.tosques` `@unipr.it`), Università degli Studi di Parma, Italy, *Locally Controlled Invariance of a Manifold for Nonlinear Systems*

This paper presents a sufficient condition for a manifold Γ to be locally controlled invariant at $x_0 \in \Gamma$ which reduces, in the cases of linear and nonlinear affine systems, to well known results in the literature. Essentially, the result says that a manifold $\Gamma \subset \mathbf{R}^n$ is locally controlled at $x_0 \in \Gamma$ if, first of all, we can find a control $u_0 \in \mathbf{R}^m$ such that $F(x_0, u_0) \in T_{x_0}\Gamma$ (this condition being evidently necessary), and second, $F(x, u)$ continues to stay in something larger than $T_x\Gamma$ (namely $T_x\Gamma + \partial_u F(x, u)(\mathbf{R}^m)$) in a neighborhood of (x_0, u_0) in $\Gamma \times \mathbf{R}^m$.