

Glumineau, A.; Moog, C. H.; Plestan, F.

New algebro-geometric conditions for the linearization by input-output injection. (English)

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Authors' abstract: The goal of this note is twofold. It unifies and generalizes existing results on input-output injection linearization of nonlinear systems. The problem is solved as a realization problem since it is based on the analysis of the structure of the input-output differential equation. The necessary and sufficient conditions are derived from a simplified and constructive procedure. For clarity, the paper is limited to the case of single output systems. Exterior differential systems are extensively used throughout the paper, giving constructive conditions.

Reviewer: [G.Conte \(Ancona\)](#)

MSC:

[93B18](#) Linearizations
[93B15](#) Realizations from input-output data
[93B52](#) Feedback control
[93B27](#) Geometric methods

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