Input-Output Decoupling with Stability for Bond Graph Models

J.M. Bertrand, C. Sueur and G. Dauphin-Tanguy

L.A.I.L., U.P.R.E.S.A. C.N.R.S. 8021, Ecole Centrale de Lille, B.P. 48, 59651 Villeneuve d'Ascq cedex, France

Received: February 17, 2000; Revised: July 6, 2000

Abstract: In this paper, the geometric approach and the bond-graph methodology are combined to characterize the structure of square linear systems modeled by bond-graph. A new concept is defined to emphasize the symbolic expressions of the fixed modes of the decoupled model and to design decoupling state feedback laws.

Keywords: *Bond graphs; linear systems; non-interacting control; stability properties.*

Mathematics Subject Classification (2000): 34D20, 93C15, 93D25.