Evaluation of the Impulsive Solution Space of Linear Multivariable Homogeneous Implicit Systems

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Abstract: A closed formula is given, which allows the determination of the impulsive solutions of Linear Homogeneous Matrix Differential Equations (L.H.M.D.E.) directly in terms of finite and infinite spectral data of the associated polynomial matrix. Specifically the notions of finite and infinite Jordan pairs for a general polynomial matrix are defined and it is pointed out the strong relationship among them and the impulsive solutions of L.H.M.D.E.