APPLICATIONS OF GENERALIZED JORDAN CHAIN IN THE SYSTEMS OF CONSERVATION LAWS.

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In this work the Jordan Chain for a generalized eigenvalues problem is obtained. We assume that in a pencil (H,G), the matrix G is non-singular and two generalized eigenvalues coincide at some points. After, the Jorgan Chain is used to regularizing certain singularity manifold appearing in the study of a non-genuiny non-linear systems of hyperbolic equations. In such study the versal deformation in the neighbors of the coincidence points is used successful. The application is possible because we find a relationship between the flux and accumulation of the systems of conservation laws and the versal deformation structure. Numerical algorithms are developed by using the combination of the versal deformation and the Schur canonical form to determine the locus where the generalized eigenvalues coincide.

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