On the Cauchy problem for some classes of nondiagonalizable hyperbolic systems

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Abstract: The main goal of the talk is to outline some recent results hyperbolic systems with principal parts admitting nontrivial Jordan blocks More precisely, we investigate the well-posedness of the Cauchy problem for weakly hyperbolic $1D$ systems with timedependent coefficients in Sobolev spaces and in the C^∞ category allowing nondiagonalizable principle parts and complex entries in the nilpotent part. We derive well-posedness results by means of an iterative approach under conditions linking the characteristic roots, the entries in the nilpotent part and of the zero order part.
Joint work with Todor Gramchev.