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TATSUEN LI; LIBIN WANG, *both Fudan University, Shanghai, China*

This monograph describes global propagation of regular nonlinear hyperbolic waves described by first-order quasilinear hyperbolic systems in one dimension. The exposition is clear, concise, and unfolds systematically beginning with introductory material and leading to the original research of the authors.

A systematic theory is established—by means of the concept of weak linear degeneracy and the method of (generalized) normalized coordinates—for the global existence and blow-up mechanism of regular nonlinear hyperbolic waves with small amplitude for the Cauchy problem and many others, including the Cauchy problem on a semi-bounded initial data, the one-side mixed initial-boundary value problem, the generalized Riemann problem, and the generalized nonlinear initial-boundary Riemann problem.

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with Applications to Complex Function Theory and the Heisenberg Group

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