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1 Physical phenomena and mathematical problems 2 Characteristic decomposition of the pseudo-steady case; 3 The hodograph transformation and the interaction of rarefaction waves; Appendix B: convertibility; 4 Local solutions for quasilinear systems; 5 Invariant regions for systems; 6 The pressure gradient system; 7 Open problems; Epilogue: Stories; References

Sommario/riassunto

This book is a collection of lecture notes on Nonlinear Conservation Laws, Fluid Systems and Related Topics delivered at the 2007 Shanghai Mathematics Summer School held at Fudan University, China, by world's leading experts in the field. The volume comprises five chapters that cover a range of topics from mathematical theory and numerical approximation of both incompressible and compressible fluid flows, kinetic theory and conservation laws, to statistical theories for fluid systems. Researchers and graduate students who want to work in this field will benefit from this essential reference as
