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	Nota di contenuto	Numerical Methods -- Computational Methods for Hyperbolic Equations -- Shock-Capturing Schemes in Computational MHD -- Hydrodynamic and Magneto-Hydrodynamic Instabilities -- The Kelvin–Helmholtz Instability -- Pressure-Driven Instabilities in Astrophysical Jets -- Thermal Instabilities -- The Oscillatory Instability of Radiative Shock Waves.
	Sommario/riassunto	This volume contains the lecture notes of the Third JETSET School on Jets from Young Stars focussing on Numerical MHD and Instabilities. The introductory lectures presented here cover the basic concepts of the numerical methods for the integration of hydrodynamic and magnetohydrodynamic equations and of the applications of these methods to the treatment of the instabilities relevant for the physics of stellar jets. The first part of the book contains an introduction to the finite difference and finite volume methods for computing the solutions of hyperbolic partial differential equations and a discussion of approximate Riemann solvers for both hydrodynamic and magnetohydrodynamic problems. The second part is devoted to the discussion of some of the main instability processes that may take place in stellar jets, namely: the Kelvin-Helmholtz, the radiative shock,

the pressure driven and the thermal instabilities. Graduate students and young scientists will benefit from this book by learning how to use the fundamental tools used in computational astrophysical jet research.