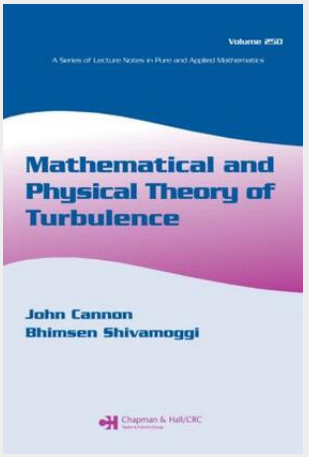
Cannon / Shivamoggi

Mathematical and Physical Theory of Turbulence, Volume 250



Although the current dynamical system approach offers several important insights into the turbulence problem, issues still remain that present challenges to conventional methodologies and concepts. These challenges call for the advancement and application of new physical concepts, mathematical modeling, and analysis techniques. Bringing together experts from physics, applied mathematics, and engineering, Mathematical and Physical Theory of Turbulence discusses recent progress and some of the major unresolved issues in two- and three-dimensional turbulence as well as scalar compressible turbulence. Containing introductory overviews as well as more specialized sections, this book examines a variety of turbulence-related topics. The authors concentrate on theory, experiments, computational, and mathematical aspects of Navier–Stokes turbulence; geophysical flows; modeling; laboratory experiments; and compressible/magnetohydrodynamic effects. The topics discussed in these areas include finite-time singularities and inviscid dissipation energy; validity of the idealized model incorporating local isotropy, homogeneity, and universality of small scales of high Reynolds numbers, Lagrangian statistics, and measurements; and subrigid-scale modeling and hybrid methods involving a mix of Reynolds-averaged Navier–Stokes (RANS), large-eddy simulations (LES), and direct numerical simulations (DNS). By sharing their expertise and recent research results, the authoritative contributors in Mathematical and Physical Theory of Turbulence promote further advances in the field, benefiting applied mathematicians, physicists, and engineers involved in understanding the complex issues of the turbulence problem.

197,50 €
184,58 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780824723231
Medium: Buch
ISBN: 978-0-8247-2323-1
Verlag: Taylor & Francis Inc
Erscheinungstermin: 15.06.2006
Sprache(n): Englisch
Auflage: 1. Auflage 2006
Serie: Lecture Notes in Pure and Applied Mathematics
Produktform: Gebunden
Gewicht: 522 g
Seiten: 208
Format (B x H): 178 x 254 mm