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Titolo	Background note, Lithuania / / Bureau of European and Eurasian Affairs
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Descrizione fisica	1 online resource (volumes)
Soggetti	Diplomatic relations Politics and government Travel Periodicals. Lithuania Description and travel Periodicals Lithuania Foreign relations Periodicals Lithuania Politics and government Periodicals Lithuania
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Periodico

2. Record Nr. UNINA9910783477903321

Autore	Belotserkovskii O. M (Oleg Mikhailovich)
Titolo	Turbulence [[electronic resource]] : new approaches / / O.M. Belotserkovskii, A.M. Oparin and V.M. Chechetkin
Pubbl/distr/stampa	Cambridge, : Cambridge International Science Publishing, c2005
ISBN	1-280-22603-X 9786610226030 1-4237-2623-5 1-904602-47-9
Descrizione fisica	1 online resource (294 pages)
Altri autori (Persone)	OparinA. M (Aleksei Mikhailovich) ChechetkinV. M (Valerii Mikhailovich)
Disciplina	532.0527
Soggetti	Turbulence Fluid dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Preliminaries; Contents; 1. Fundamental aspects of the direct numerical modelling of free turbulence and hydrodynamic instabilities; 1.1. Introduction; 1.2. Problem of ration 'averaging' in numerical examination of turbulence; 1.3. Some experimental assumptions; 1.4. General formulation of the problem; 1.5. Modelling of coherent structures in tirbulence; 1.6. Correctness of formulation of the problem; 2. Computing problems and methods of examining nonlinear multidimensional problems; 2.1. General assumptions of construction of numerical algorithms for calculations using supercomputers 2.2. Some numerical methods for calculatio of multidimensional nonlinear processes2.3. Effective quasi-monotonic hybrid scheme for gas-dynamic calculations; 2.4. Substitution of grid functions of dependent variables in finite-difference equations; 2.5. Decomposition of problems of numerical modelling, described by hyperbolic equations, on parallel computers; 2.6. Mathematical modelling of an explosion of a supernova in a parallel computer; 3. Selected results; 3.1. Calculations of coherent structures in a near wake behind a solid for limiting motion regimes

3.2. Numerical modelling of stochastic components of turbulence (turbulent background)3.3. Statistical modelling of flows of free turbulence in a long-range wake; 3.4. Formation of large-scale structures in a gap between rotating cylinders (Rayleigh-Zel'dovich problem); 3.5. Numerical simulation of the problems of development of hydrodynamic instabilities and turbulent mixing; 3.6. Numerical modelling of the processes of propagation of an impurity in the atmosphere from a large-scale source; 4. Astrophysical turbulence, convection and instabilities; 4.1. Turbulence
4.2. The structure of the accretion disc4.3. Effect of viscosity on the morphology of the flow of matter in semi-divided binary systems. Results of three-dimensional numerical modelling; 4.4. Large-scale structure of turbulence in accretion discs; 4.5. Convective instability in astrophysics; Conclusions; References; Index

Sommario/riassunto

The authors present the results of numerical experiments carried out to examine the problem of development of turbulence and convection. On the basis of the results, they propose a physical model of the development of turbulence. Numerical algorithms and difference schema for carrying out numerical experiments in hydrodynamics, are proposed. Original algorithms, suitable for calculation of the development of the processes of turbulence and convection in different conditions, even on astrophysical objects, are presented. The results of numerical modelling of several important phenomena having b