

Nonlinear MHD Waves and Turbulence



The workshop Nonlinear MHD Waves and Turbulence was held at the Observatoire de Nice, December 1-4, 1998 and brought together an international group of experts in plasma physics, fluid dynamics and applied mathematics. The aim of the meeting was to survey the current knowledge on two main topics: (i) propagation of plasma waves (like Alfvén, whistler or ion-acoustic waves), their instabilities and the development of a nonlinear dynamics leading to solitonic structures, wave collapse or weak turbulence; (ii) turbulence in magnetohydrodynamic flows and its reduced description in the presence of a strong ambient magnetic field. As is well known, both aspects play an important role in various geophysical or astrophysical media such as the magnetospheres of planets, the heliosphere, the solar wind, the solar corona, the interplanetary and interstellar media, etc. This volume, which includes expanded versions of oral contributions presented at this meeting, should be of interest for a large community of researchers in space plasmas and nonlinear sciences. Special effort was made to put the new results into perspective and to provide a detailed literature review. A main motivation was the attempt to relate more closely the theoretical understanding of MHD waves and turbulence (both weak and strong) with the most recent observations in space plasmas. Some papers also bring interesting new insights into the evolution of hydrodynamic or magnetohydrodynamic structures, based on systematic asymptotic methods.

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Waves and turbulence in magnetohydrodynamic direct numerical The underlying cause is the nonlinear vorticity advection through which the The pure situation of drift wave turbulence is slab geometry in a sheared .. The MHD model contains the interchange mechanism but neglects the drift wave **Weak magnetohydrodynamic turbulence of magnetized plasma** Nonlinear MHD Waves and Turbulence. Proceedings of the Workshop Held in Nice, France, 14 December 1998. Bearbeitet von. Thierry Passot, Pierre-Louis **On wave turbulence in MHD** The nonlinear interaction between counterpropagating Alfvén waves is the . even for weak MHD turbulence dominated by three-wave **Nonlinear MHD Waves and Turbulence Passot / Sulem beck-shop** dynamics of Alfvén waves are responsible, at a very fundamental .. The strength of the nonlinearity in incompressible MHD turbulence may be **Nonlinear MHD Waves and Turbulence (2000-01-14** - Applications of our work to weak turbulence theories as well as to the The nonlinear interaction of magnetohydrodynamic (MHD) waves has **Wave Turbulence (Lecture Notes in Physics, 825)** Buy Nonlinear Mhd Waves and Turbulence: Proceedings Of The Workshop Held In Nice, France, 14 December 1998 (Lecture Notes in Physics) by Thierry **Alfvén Wave Collisions, The Fundamental Building Block of Plasma** Nonlinear Processes in Geophysics (2001) 8: 141150. Nonlinear Processes in Geophysics c European Geophysical Society 2001. On wave turbulence in MHD. **Wave turbulence in magnetohydrodynamics** The evolution of a weak magnetic field in isotropic MHD turbulence poses an interesting This is a consequence of the existence of linear MHD waves. . The nonlinearity of the IK cascade weakens toward smaller scales, **Nonlinear MHD Waves and Turbulence - Toc - Beck-Shop** Nonlinear MHD Waves and Turbulence: Proceedings of the Workshop Held in Nice, France, 1-4 December 1998] (By: Thierry Passot) [published: December, **A Dynamical Model of Plasma Turbulence in the Solar Wind** of weak MHD fields are determined by four-wave resonant interactions. This conclusion is false. This arises because the nonlinear interaction coefficient for. **A weak turbulence theory for incompressible - UCSD Physics** from whom I was fortunate to learn Wave Turbulence firsthand as a Ph.D. .. MHD. Magneto-Hydrodynamics. NLS. Nonlinear Schrodinger (equation, model). **NPG Special issue Nonlinear waves and turbulence in space** Shukla P K and Stenflo L 1999 Nonlinear MHD Waves and Turbulence ed T Passot Nonlinear effects related to circularly polarized dispersive Alfvén waves **Nonlinear MHD Waves and Turbulence (2000-01-14** - Preface The workshop Nonlinear MHD Waves and Turbulence was held at the Observatoire de Nice, December 14, 1998 and brought together an The distinctive feature of the new model is incorporating the MHD Alfvén wave turbulence. We assume this turbulence and its non-linear **Nonlinear MHD Waves and Turbulence - Proceedings of the - Springer** The workshop Nonlinear MHD Waves and Turbulence was held at the - servatoire de Nice, December 1-4, 1998 and brought together an **Nonlinear interactions between kinetic Alfvén and ion-sound waves** The workshop Nonlinear MHD Waves and Turbulence was held at the - servatoire de Nice, December 1-4, 1998 and brought together an international group **The Heating & Acceleration of the Solar Wind - UC Berkeley** Incompressible MHD Turbulence. View as interaction of Alfvén wave packets traveling at. a single Alfvén wave packet is an exact non-linear soln of **Nonlinear MHD Waves and Turbulence - Proceedings of the - Springer** on wave turbulence in magnetized plasmas (MHD, Hall MHD and nonlinear dispersive waves (Zakharov et al., 1992 Nazarenko, 2011). **Nonlinear MHD Waves and Turbulence, Thierry Passot** nerically known as weak turbulence.10,11 In fact, the inter- play of waves and turbulent fluctuations nonlinear activity is actually a complex topic in MHD Ref. **Transient filaments formation by nonlinear kinetic Alfvén waves and** Passot, Sulem, Nonlinear MHD Waves and Turbulence, 2010, Taschenbuch, 978-3-642-08598-7, portofrei. **Nonlinear MHD Waves and Turbulence: Proceedings of the Workshop - Google Books Result** Buy Nonlinear MHD Waves and Turbulence (2000-01-14) on ? FREE SHIPPING on qualified orders. **Wave turbulence in incompressible Hall MHD** Notes Phys., 536, 369-385 (1999) [Nonlinear MHD Waves and Turbulence, T. Passot and P.-L. Sulem (Eds.). Springer, x, 385 pp, ISBN 978-3-540-66697-4]. **Nonlinear MHD Waves and Turbulence - Springer** Nonlinear MHD Waves and Turbulence Paperback. The workshop Nonlinear MHD Waves and Turbulence was held at the - servatoire de Nice, December 1-4, **Nonlinear MHD Waves and Turbulence by Thierry Passot, Pierre** weak wave turbulence theory (for details, see monograph [3] and also the first For ? ? 1 the main nonlinear mechanism of the MHD waves is a scattering of **MHD turbulence - Scholarpedia** In that context, the long-time behavior of weakly interacting waves is examined the nonlinear dynamics of Alfvén, whistler and ion cyclotron wave Hall MHD turbulence is characterized by anisotropies of different strength. **Vladimir Zakharov, publications: waves**

and turbulence in nonlinear Nonlinear MHD Waves and Turbulence (2000-01-14) [Unknown] on . *FREE* shipping on qualifying offers. **Nonlinear Mhd Waves and Turbulence: Proceedings Of The [Nonlinear MHD Waves and Turbulence: Proceedings of the** The nonlinear dynamical equation for the propagation of kinetic Alfvén waves Proceedings of the Workshop on Nonlinear MHD Waves and Turbulence, Nice, **MHD Waves and Coronal Heating: Unifying Empirical and MHD** Nonlinear waves and turbulence in space Editor(s): T. Hada, J. Buechner, A. Chian, and B. Intermittent heating of the solar corona by MHD turbulence. **Drift wave versus interchange turbulence in tokamak geometry** The workshop Nonlinear MHD Waves and Turbulence was held at the Observatoire de Nice, December 1-4, 1998 and brought together an international group