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Nota di contenuto	Contents; Preface; IRIMA; Participants; Sergio Albeverio and Yana Belopolskaya Probabilistic Approach to Hydrodynamic Equations; Hakima Bessaih and Franco Flandoli A Mean Field Result for 3D Vortex Filaments; Bjorn Bottcher and Niels Jacob Remarks on Meixner-type Processes; Zdzistaw Brzeinaak Some Remarks on Ito and Stratonovich Integration in 2-smooth Banach Spaces; Tomas Caraballo The Long-time Behaviour of Stochastic 2D-Navier-Stokes Equations; Pao-Liu Chow Semilinear Stochastic Wave Equations; Nigel J. Cutland Stochastic Navier-Stokes Equations: Loeb Space Techniques & Attractors Arnaud Debussche The 2D-Navier-Stokes Equations Perturbed by a Delta Correlated NoiseSergio Albeverio and Benedetta Ferrario Invariant Measures of Levy-Khinchine Type for 2D Fluids; Franco Flandoli Some Remarks on a Statistical Theory of Turbulent Flows; Christophe Giraud Some Properties of Burgers Turbulence with White Noise Initial Conditions; Yuri E. Gliklikh Deterministic Viscous Hydrodynamics via Stochastic Processes on Groups of Diffeomorphisms; Niels Jacob and Aubrey Truman Further Classes of Pseudo-differential Operators

Applicable to Modelling in Finance and Turbulence

Benjamin Jourdain and Tony Lelievre Mathematical Analysis of a Stochastic Differential Equation Arising in the Micro-Macro Modelling of Polymeric FluidsHannelore Lisei and Michael Scheutzow On the Dispersion of Sets under the Action of an Isotropic Brownian Flow; Aubrey Truman, Chris N. Reynolds and David Williams Stochastic Burgers Equation in d-dimensions - A One-dimensional Analysis: Hot and Cool Caustics and Intermittence of Stochastic Turbulence; Armen Shirikyan A Version of the Law of Large Numbers and Applications; Marian Slodicka Comprehensive Models for Wells

Enrique Thomann and Mina Ossiander Stochastic Cascades Applied to the Navier-Stokes EquationsAubrey Truman and Jiang-Lun Wu Stochastic Burgers Equation with Levy Space-Time White Noise; Tusheng Zhang A Comparison Theorem for Solutions of Backward Stochastic Differential Equations with Two Reflecting Barriers and Its Applications; Aubrey Truman and Huaizhong Zhao Burgers Equation and the WKB-Langer Asymptotic L2 Approximation of Eigenfunctions and Their Derivatives

Sommario/riassunto

This volume contains recent research papers presented at the international workshop on "Probabilistic Methods in Fluids" held in Swansea. The central problems considered were turbulence and the Navier-Stokes equations but, as is now well known, these classical problems are deeply intertwined with modern studies of stochastic partial differential equations, jump processes and random dynamical systems. The volume provides a snapshot of current studies in a field where the applications range from the design of aircraft through the mathematics of finance to the study of fluids in porous media.