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Nota di contenuto	R. Denk, An Introduction To Maximal Regularity For Parabolic Evolution Equations -- Y. Kagei, On stability and bifurcation in parallel flows of compressible Navier-Stokes equations -- J. Fan and T. Ozawa, Uniform regularity for a compressible Gross-Pitaevskii-Navier-Stokes system -- T. Ogawa, Singular Limit Problem to the Keller-Segel System in Critical Spaces and Related Medical Problems An Application of Maximal Regularity -- A. Swiech, HJB Equation, Dynamic Programming Principle, and Stochastic Optimal Control -- S. Koike, Regularity of solutions of obstacle problems – old & new -- A. Enciso, D. Peralta-Salas and F. Torres De Lizaur, High-Energy Eigenfunctions of the Laplacian on the Torus and The Sphere with Nodal Sets of Complicated Topology.
Sommario/riassunto	This volume features selected, original, and peer-reviewed papers on topics from a series of workshops on Nonlinear Partial Differential Equations for Future Applications that were held in 2017 at Tohoku University in Japan. The contributions address an abstract maximal

regularity with applications to parabolic equations, stability, and bifurcation for viscous compressible Navier–Stokes equations, new estimates for a compressible Gross–Pitaevskii–Navier–Stokes system, singular limits for the Keller–Segel system in critical spaces, the dynamic programming principle for stochastic optimal control, two kinds of regularity machineries for elliptic obstacle problems, and new insight on topology of nodal sets of high-energy eigenfunctions of the Laplacian. This book aims to exhibit various theories and methods that appear in the study of nonlinear partial differential equations. .