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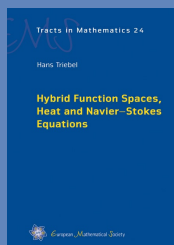
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*Hans Triebel (University of Jena, Germany)***Hybrid Function Spaces, Heat and Navier-Stokes Equations**

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This book is the continuation of *Local Function Spaces, Heat and Navier–Stokes Equations* (Tracts in Mathematics 20, 2013) by the author. A new approach is presented to exhibit relations between Sobolev spaces, Besov spaces, and Hölder–Zygmund spaces on the one hand and Morrey–Campanato spaces on the other. Morrey–Campanato spaces extend the notion of functions of bounded mean oscillation. These spaces play a crucial role in the theory of linear and nonlinear PDEs.

Chapter 1 (Introduction) describes the main motivations and intentions of this book. Chapter 2 is a selfcontained introduction into Morrey spaces. Chapter 3 deals with hybrid smoothness spaces (which are between local and global spaces) in Euclidean n -space based on the Morrey–Campanato refinement of the Lebesgue spaces. The presented approach relies on wavelet decompositions. This is applied in Chapter 4 to linear and nonlinear heat equations in global and hybrid spaces. The obtained assertions about function spaces and nonlinear heat equations are used in the Chapters 5 and 6 to study Navier–Stokes equations in hybrid and global spaces.

This book is addressed to graduate students and mathematicians having a working knowledge of basic elements of (global) function spaces, and who are interested in applications to nonlinear PDEs with heat and Navier–Stokes equations as prototypes.

Keywords: Function spaces, Morrey spaces, heat equations, Navier-Stokes equations

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