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Entropy Methods for Diffusive Partial Differential Equations

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Preface

The concept of entropy
in mathematics. Entropi
partial differential equa
some entropy methods
decades. These method
solutions to diffusive eq
the large-time asympt
inequalities, the existen
discrete and geometric
The purpose of this b
which can be found in t
not stated in the widest
sense that the functional
My hope is that in this
PhD students and may
The book consists of
entropy in physics and
Entropy methods for Fo
huge topic, investigated
only. In particular, the
original stochastic view
Markowich, Toscani, an
tions are given, based on
Dolbeault. Many aspect
placement convexity, Ri
ation principles. More
instance, in the monogra
Chapter 3 is concerne
rated by Matthes, Bukal,

methods in an efficient,
r higher order equations.
Entropy methods are here
rove the global existence of
ess. These techniques were
Di Francesco, Pietschmann,
ms are rather technical since
eak convergence arguments
in the appendix.
otivated by the aim of pre-
the numerical level. Since
approaches taken from the
ns (recently investigated by
Aielke; Fathi and Maas; and
ns of Fokker–Planck equa-

hools in Vienna (Austria) in
in 2012, Kacov (Czech
015. Some material in this
notes of Matthes and Evans,
Burger, Gajewski, Mielke,
corresponding sections. In
exhaustive. I do not claim

the cooperation with my
abetic order) J.A. Carrillo
), P. Degond (London),
N. Zamponi (Vienna).
a), D. Bothe (Darmstadt),
er (Berlin), J. Fuhrmann
or fruitful discussions. Last
iting me to write this brief

ian Science Fund (FWF),

Ansgar Jüngel

Contents