EDITOR-IN-CHIEF
Shair Ahmad, USA

HONORARY EDITORS
A. Bahri, USA
V. Benci, Italy
D. Fortunato, Italy
J. Mawhin, Belgium
K. Schmitt, USA

EDITORS
A. Ambrosetti, Italy
L.A. Caffarelli, USA
C. Cosner, USA
E.N. Dancer, Australia
N. Ghoussoub, Canada
C. Gui, USA

Y. Long, China
J. López-Gómez, Spain
G. Lu, USA
K. Lu, USA
K. Palmer, Taiwan
I. Peral, Spain
A. Pratelli, Germany
P. Pucci, Italy
P.H. Rabinowitz, USA
D. Ruiz, Spain
S. Solimini, Italy
E. Valdinoci, Italy
L. Véron, France
G. Vidossich, Italy
Z.-Q. Wang, USA
F. Zanolin, Italy

DE GRUYTER
Contents

Lu Chen, Juntang Li, Guozhen Lu, Caifeng Zhang
Sharpened Adams Inequality and Ground State Solutions to the Bi-Laplacian Equation in $\mathbb{R}^4$ — 429

Sergio Cruz-Blázquez, David Ruiz
Prescribing Gaussian and Geodesic Curvature on Disks — 453

Marlène Frigon
Existence and Multiplicity Results for Systems of First-Order Differential Equations via the Method of Solution-Regions — 469

Hua Jin, Wenbin Liu, Jianjun Zhang
Singularly Perturbed Fractional Schrödinger Equation Involving a General Critical Nonlinearity — 487

Aimin Huang, Wenru Huo, Michael Jolly
Finite-Dimensionality and Determining Modes of the Global Attractor for 2D Boussinesq Equations with Fractional Laplacian — 501

Minghua Yang, Zunwei Fu, Suying Liu
Analyticity and Existence of the Keller–Segel–Navier–Stokes Equations in Critical Besov Spaces — 517

Jaume Llibre, Clàudia Valls
Polynomial Solutions of Equivariant Polynomial Abel Differential Equations — 537

Mengxia Dong
Existence of Extremal Functions for Higher-Order Caffarelli–Kohn–Nirenberg Inequalities — 543

Jorge García-Melián, Julio D. Rossi, José C. Sabina de Lis
A Diffusion Equation with a Variable Reaction Order — 555

Caifeng Zhang, Lu Chen
Concentration-Compactness Principle of Singular Trudinger–Moser Inequalities in $\mathbb{R}^n$ and $n$-Laplace Equations — 567

Yi He
Singularly Perturbed Fractional Schrödinger Equations with Critical Growth — 587

Yisheng Huang, Yuanze Wu
On a Kirchhoff Equation in Bounded Domains — 613