

Dalibor Pražák and Jakub Slavík

**Nonstandard analysis of global
attractors**

MATH-KMA-2014/456

March 2014

Submitted

Cover print by Reprostředisko, Malostranské nám. 25, Praha 1 - Malá Strana
Design by Mirko Rokyta, picture of snowflake by Ondřej Kalenda
Current series administrators: Stanislav Hencl, Ondřej Kalenda

List of preprints released in this series

All preprints available on <http://www.karlin.mff.cuni.cz/kma-preprints/>
E-mail contact to series administrator: kma-prep@karlin.mff.cuni.cz

1999 – 2012

For the details on papers submitted in specified years see the web page of the preprint series.

2013

- MATH-KMA-2013/411 S. Hencl and P. Honzik: *Dimension of images of subspaces under mappings in Triebel-Lizorkin spaces*
- MATH-KMA-2013/412 Marek Cúth: *Noncommutative Valdivia compacta*
- MATH-KMA-2013/413 Luděk Zajíček: *A Lipschitz function which is C^{infty} on a.e. line need not be generically differentiable*
- MATH-KMA-2013/414 M. Křepela: *Convolution inequalities in weighted Lorentz spaces*
- MATH-KMA-2013/415 O. Kalenda and J. Spurný: *On quantitative Schur and Dunford-Pettis properties*
- MATH-KMA-2013/416 Robert Černý: *Moser-type trace inequalities for generalized Lorentz-Sobolev spaces*
- MATH-KMA-2013/417 Marek Cúth and Marián Fabián: *Projections in duals to Asplund spaces made without Simons' lemma*
- MATH-KMA-2013/418 Robert Černý: *Bi-Sobolev homeomorphism with zero minors almost everywhere*
- MATH-KMA-2013/419 Marek Cúth: *Simultaneous projectional skeletons*
- MATH-KMA-2013/420 Luděk Klepřlík: *Composition operators on W^1X are necessarily induced by quasiconformal mappings*
- MATH-KMA-2013/421 Jiří Spurný, Miroslav Zelený: *Convergence of a typical martingale (A remark on the Doob theorem)*
- MATH-KMA-2013/422 Ron Kerman, Colin Phipps and Lubo Pick: *Marcinkiewicz interpolation theorems for Orlicz and Lorentz gamma spaces*
- MATH-KMA-2013/423 Luděk Zajíček: *Remarks on Fréchet differentiability of pointwise Lipschitz, cone-monotone and quasiconvex functions*
- MATH-KMA-2013/424 S. Hencl, Z. Liu and J. Malý: *Distributional Jacobian equal to \mathcal{H}^1 measure*
- MATH-KMA-2013/425 Pavel Ludvík and Jiří Spurný: *Baire classes of L_1 -preduals and C^* -algebras*
- MATH-KMA-2013/426 Marek Cúth and Ondřej Kalenda: *Note on Bessaga-Klee classification*
- MATH-KMA-2013/427 Tomáš Roskovec: *Sobolev embedding theorem for irregular domains and discontinuity of $p \rightarrow p^*(p, n)$*
- MATH-KMA-2013/428 Marek Cúth and Ondřej Kalenda: *Rich families and elementary submodels*
- MATH-KMA-2013/429 Amiran Gogatishvili, Bohumír Opic, Sergey Tikhonov and Walter Trebels: *Ul'yanov-type inequalities*
- MATH-KMA-2013/430 António Caetano, Amiran Gogatishvili and Bohumír Opic: *Compactness in quasi-Banach function spaces*
- MATH-KMA-2013/431 Marek Cúth, Martin Rmoutil, Miroslav Zelený: *Separable Determination of Sigma-P-Porous Sets in Banach Spaces*
- MATH-KMA-2013/432 Luděk Zajíček: *Properties of Hadamard directional derivatives: Denjoy-Young-Saks theorem for functions on Banach spaces*
- MATH-KMA-2013/433 Duan Pokorný, Martin Rmoutil: *On Removable Sets For Convex Functions*
- MATH-KMA-2013/434 Amiran Gogatishvili, Susana D. Moura, Júlio S. Neves and Bohumír Opic: *Embeddings of Sobolev-type spaces into generalized Holder spaces involving k -modulus of smoothness*
- MATH-KMA-2013/435 P. Koskela, J. Malý and T. Zürcher: *Luzin's Condition (N) and Modulus of Continuity*
- MATH-KMA-2013/436 Hana Bendová: *Quantitative Grothendieck Property*
- MATH-KMA-2013/437 Pavel Ludvík and Jiří Spurný: *Baire classes of nonseparable L_1 preduals*
- MATH-KMA-2013/438 Stanislav Hencl and Jani Onninen: *Jacobian of weak limits of Sobolev homeomorphisms*

- MATH-KMA-2013/439 Amiran Gogatishvili, Lubo Pick and Filip Soudský: *Characterization of associate spaces of weighted Lorentz spaces with applications*
- MATH-KMA-2013/440 Martin Křepela: *Convolution in rearrangement-invariant spaces defined in terms of oscillation and the maximal function*
- MATH-KMA-2013/441 T. Bárta: *Convergence to equilibrium of relatively compact solutions to evolution equations*
- MATH-KMA-2013/442 T. Bárta: *One-dimensional model describing the non-linear viscoelastic response of materials*
- MATH-KMA-2013/443 Andrea Cianchi, Lubo Pick and Lenka Slavíková: *Higher-order Sobolev embeddings and isoperimetric inequalities*
- MATH-KMA-2013/444 Lenka Slavíková: *Compactness of higher-order Sobolev embeddings*
- MATH-KMA-2013/445 O. Kalenda and J. Spurný: *Typical martingale diverges at a typical point*
- MATH-KMA-2013/446 Petr Hájek and Eva Pernecká: *On Schauder bases in Lipschitz-free spaces*
- MATH-KMA-2013/447 Robert Černý: *Concentration-Compactness Principle for generalized Moser-Trudinger inequalities: characterization of the non-compactness in the radial case*
- MATH-KMA-2013/448 Martin Franců, Ron Kerman and Gord Sinnamon: *A new algorithm for approximating the least concave majorant*
- MATH-KMA-2013/449 Pavel Ludvík and Jiří Spurný: *Baire classes of complex L_1 -preduals*
- MATH-KMA-2013/450 Martin Křepela: *Convolution in weighted Lorentz spaces of type Γ*
- MATH-KMA-2013/451 Petr Honzík: *Orthogonality principle for bilinear Littlewood-Paley decompositions*
- MATH-KMA-2013/452 Jan Malý, Luděk Zajíček: *On Stepanov type differentiability theorems*

2014

- MATH-KMA-2014/453 M. Cúth: *Characterization of compact monotonically (ω)-monolithic spaces using system of retractions*
- MATH-KMA-2014/454 D. Campbell, S. Hencl, F. Konopecký: *The weak inverse mapping theorem*
- MATH-KMA-2014/455 Marek Cúth a Ondřej Kalenda: *Monotone retractability and retractional skeletons*
- MATH-KMA-2014/456 Dalibor Pražák and Jakub Slavík: *Nonstandard analysis of global attractors*