

Lenka Slavíková

**Compactness of higher-order
Sobolev embeddings**

MATH-KMA-2013/444

November 2013

Submitted

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 – 2011

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

2012

- MATH-KMA-2012/383 Robert Černý and Petr Gurka: *Moser-type inequalities for generalized Lorentz-Sobolev spaces*
- MATH-KMA-2012/384 Robert Černý: *Sharp constants for Moser-type inequalities concerning embedding into Zygmund spaces*
- MATH-KMA-2012/385 T. Bárta: *Global existence for a system of nonlocal PDEs with applications to chemically reacting incompressible fluids*
- MATH-KMA-2012/386 T. Bárta: *Nonmonotone nonconvolution functions of positive type and applications*
- MATH-KMA-2012/387 T. Bárta: *Global existence for a nonlinear model of 1D chemically reacting viscoelastic body*
- MATH-KMA-2012/388 Václav Vlasák: *The size of the classes of H^n -sets*
- MATH-KMA-2012/389 Martin Rmoutil: *On the nonexistence of a relation between σ -left-porosity and σ -right-porosity*
- MATH-KMA-2012/390 Dalibor Prašek, Josef abenský: *On the dimension of the attractor for a modified 3d Ladyzhenskaya model*
- MATH-KMA-2012/391 O.Kalenda and J.Spurný: *Quantification of the reciprocal Dunford-Pettis property*
- MATH-KMA-2012/392 P. Honzik: *Maximal Marcinkiewicz multipliers*
- MATH-KMA-2012/393 F. Cobos, A. Gogatishvili, B. Opic and L. Pick: *Interpolation of uniformly absolutely continuous operators*
- MATH-KMA-2012/394 E. Pernecká and L. Pick: *Compactness of Hardy operators involving suprema*
- MATH-KMA-2012/395 C.S.Barroso, O.Kalenda and M.P.Reboucas: *Optimal approximate fixed point results in locally convex spaces*
- MATH-KMA-2012/396 Martin Francú, Ronald Kerman, Colin Phipps, Ali Sayfy: *Finite element approximations to rearrangements*
- MATH-KMA-2012/397 Michal Kraus: *Coarse and uniform embeddings between Orlicz sequence spaces*
- MATH-KMA-2012/398 O. Kurka: *On the variation of the Hardy-Littlewood maximal function*
- MATH-KMA-2012/399 Gilles Lancien and Eva Pernecká: *Approximation properties and Schauder decompositions in Lipschitz-free spaces*
- MATH-KMA-2012/400 L. Veselý and L. Zajíček: *On differentiability of convex operators*
- MATH-KMA-2012/401 J. Duda and L. Zajíček: *Curves in Banach spaces which allow a C^1, BV parametrization or a parametrization with finite convexity*
- MATH-KMA-2012/402 L. Zajíček: *Hadamard differentiability via Gateaux differentiability*
- MATH-KMA-2012/403 David E. Edmunds and Bohumír Opic: *A limiting variant of Krasnoselkii compact interpolation theorem*
- MATH-KMA-2012/404 S. Hencl, L. Kleprlík and J. Malý: *Composition operator and Sobolev-Lorentz spaces $WL^{n,q}$*
- MATH-KMA-2012/405 L. Zajíček: *Gateaux and Hadamard differentiability via directional differentiability*
- MATH-KMA-2012/406 Robert Černý: *Generalized n -Laplacian: boundedness of the weak solutions to the Dirichlet problem with the nonlinearity in the critical growth range*
- MATH-KMA-2012/407 Kristýna Kuncová and Jan Malý: *Non-absolutely convergent integrals in metric spaces*
- MATH-KMA-2012/408 Luigi D'onofrio, Stanislav Hencl and Roberta Schiattarella: *Bi-Sobolev homeomorphism with zero Jacobian almost everywhere*
- MATH-KMA-2012/409 Petr Honzik and Jan Malý: *Non-absolutely convergent integrals and singular integrals*
- MATH-KMA-2012/410 Maurizio Grasselli and Dalibor Prašek: *Regularity results for a Cahn-Hilliard-Navier-Stokes system with shear dependent viscosity*

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^∞ 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 Klepřík: *Composition operator and necessary condition for W^1X*
- 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 Luboš 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 Dušan 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, Luboš 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, Luboš Pick and Lenka Slavíková: *Higher-order Sobolev embeddings and isoperimetric inequalities*
- MATH-KMA-2013/444 Lenka Slavíková: *Compactness of higher-order Sobolev embeddings*