

- Anders Björn, Jana Björn and Jan Malý: Quasiopen and  $p$ -path open sets, and characterizations of quasicontinuity. *Potential Anal.* (to appear), arXiv.

In this paper we give various characterizations of quasiopen sets and quasicontinuous functions on metric spaces. For complete metric spaces equipped with a doubling measure supporting a  $p$ -Poincaré inequality we show that quasiopen and  $p$ -path open sets coincide. Under the same assumptions we show that all Newton-Sobolev functions on quasiopen sets are quasicontinuous.

- Vendula Honzlová Exnerová, Jan Malý and Olli Martio: Modulus in Banach Function Spaces. Preprint MATH-KMA-2016/526.

Moduli of path families are widely used to mark curves which may be neglected for some applications. We introduce ordinary and approximative modulus with respect to Banach function spaces. While these moduli lead to the same result in reflexive spaces, we show that there are important path families (like paths tangent to a given set) which can be labeled as negligible by the approximative modulus with respect to the Lorentz  $L^{p,1}$ -space for an appropriate  $p$ , in particular, to the ordinary  $L^1$ -space if  $p = 1$ , but not by the ordinary modulus with respect to the same space.

- Zhuomin Liu and Jan Malý: A note on Sobolev isometric immersions below  $W^{2,2}$  regularity. Preprint MATH-KMA-2016/521.

This paper aims to investigate the Hessian of second order Sobolev isometric immersions below the natural  $W^{2,2}$  setting. We show that the Hessian of each coordinate function of a  $W^{2,p}$ ,  $p < 2$ , isometric immersion satisfies a low rank property in the almost everywhere sense, in particular, its Gaussian curvature vanishes almost everywhere. Meanwhile, we provide an example of a  $W^{2,p}$ ,  $p < 2$ , isometric immersion from a bounded domain of  $\mathbb{R}^2$  into  $\mathbb{R}^3$  that has multiple singularities.