

SEMINÁRIO DE ANÁLISE

Existence of bounded variation solutions for a 1-Laplacian problem with vanishing potentials

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Abstract. In this work it is studied a quasilinear elliptic problem in the whole space \mathbb{R}^N involving the 1-Laplacian operator, with potentials which can vanish at infinity. The Euler-Lagrange functional is defined in a space whose definition resembles $BV(\mathbb{R}^N)$ and, in order to avoid working with extensions of it to some Lebesgue space, we state and prove a version of the Mountain Pass Theorem without the Palais-Smale condition to Lipschitz continuous functionals.

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