

A variational approach to sign-changing solutions of quasilinear problems in \mathbb{R}^N

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SUMMARY

I will address the existence of sign-changing solutions for inhomogeneous p -Laplacian equations set on the whole of \mathbb{R}^N . The proof I will present is variational and uses constraint minimisation over Nehari-type sets. This approach allows one to deal with non-coercive functionals, for which the direct method of the calculus of variations fails. The lack of compactness due to the unbounded domain is overcome by working in an appropriate weighted Sobolev space. This is joint work with Ann Derlet.

Keywords: Quasilinear elliptic equations; unbounded domain; sign-changing solutions; Nehari manifold; weighted Sobolev spaces

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