Positive solutions for slightly subcritical elliptic problems

Mabel Cuesta, Rosa Pardo

We focus on semilinear elliptic equations involving sign-changing weight function and a nonlinearity of subcritical nature understood in a generalized sense. Using an Orlicz-Sobolev space setting, we consider superlinear nonlinearities which do not have a polynomial growth, and state sufficient conditions guaranteeing the Palais-Smale condition. We study the existence of a bifurcated branch of classical positive solutions, containing a turning point, and providing multiplicity of solutions.

This is a joint work with Mabel Cuesta, ULCO, see [1].

References

[1] M. Cuesta and R. Pardo. Positive solutions for slightly subcritical elliptic problems via Orlicz spaces. *Milan J. Math.*, 90(1):229–255, 2022.