The Ambrosetti-Prodi Problem for Non-variational Elliptic Systems.

D. G. de Figueiredo

We study systems of two semilinear elliptic equations involving differential operators which are not of divergence type. We define the "crossing of the first eigenvalue". For the problem in a parametrized form, we prove the existence of two solutions for certain values of the parameters. The key point is the proof of a priori bounds, which is done by a Blow-up argument.