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Bifurcation for some semilinear elliptic equations when the linearization has no eigenvalues

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Abstract: We prove existence and bifurcation results for a semilinear eigenvalue problem in $\mathbb{R}^N$ ($N \geq 2$), where the linearization — $\triangle$ has no eigenvalues. In particular, we show that under rather weak assumptions on the coefficients $\lambda = 0$ is a bifurcation point for this problem in H^1, H^2 and L^p ($2 \leq p \leq \infty$).

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