

# Duffing equation with the potential Landesman-Lazer condition

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In this paper we investigate the nonlinear second order ordinary differential equation at resonance

$$\begin{aligned} u''(x) + c u' + \left(m^2 - \frac{c^2}{4}\right) u + g(x, u) &= f(x), & x \in \langle 0, \pi \rangle, \\ x(0) = x(\pi) &= 0. \end{aligned}$$

We suppose that the nonlinearity  $g$  satisfies a potential Landesman-Lazer condition and we prove the existence of a solution to this problem using a saddle point theorem.