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Title: Existence of solution for a nonlocal problem in $\mathbb{R}^N$ via bifurcation theory

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Abstract: In this work, we study the existence of solution for the following class of nonlocal problem,

$$\begin{cases} -\Delta u = \left(\lambda f(x) - \int_{\mathbb{R}^N} K(x,y)|u(y)|^\gamma dy\right) u, & \text{in} \quad \mathbb{R}^N, \\ \lim_{|x|\to+\infty} u(x) = 0, \quad u > 0 \quad \text{in} \quad \mathbb{R}^N, \end{cases} \tag{P}$$

where $N \geq 3$, $\lambda > 0, \gamma \in [1,2)$, $f : \mathbb{R} \to \mathbb{R}$ is a positive continuous function and $K : \mathbb{R}^N \times \mathbb{R}^N \to \mathbb{R}$ is a nonnegative function. The functions f and K satisfy some conditions, which permit to use Bifurcation Theory to prove the existence of solution for problem (P).