

## On a singular perturbed problem in an annulus

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**Abstract.** In this paper we prove the conjecture due to Ruf–Srikanth [14]. We prove the existence of positive solution under Dirichlet and Neumann boundary conditions, which concentrate near the inner boundary and outer boundary of an annulus respectively as  $\varepsilon \rightarrow 0$ . In fact, our result is independent of the dimension of  $\mathbb{R}^N$ .

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