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Janak R Joshi* (janakrajjoshi@my.unt.edu), 2301 West Prairie Street, Apt#2, Denton, TX 76201, and **Joseph Iaia.** *Existence of Solutions for Semilinear Neumann problems with prescribed number of zeros on exterior domains.*

In this paper we prove the existence of an infinite number of radial solutions of $\Delta u + K(r)f(u) = 0$ with Neumann-like boundary conditions on the exterior of the ball of radius R centered at the origin in \mathbb{R}^N such that $\lim_{r \rightarrow \infty} u(r) = 0$ with prescribed number of zeros where $f : \mathbb{R} \rightarrow \mathbb{R}$ is odd and there exists a $\beta > 0$ with $f < 0$ on $(0, \beta)$, $f > 0$ on (β, ∞) with f superlinear for large u , and $K(r) \sim r^{-\alpha}$ with $0 < \alpha < 2(N - 1)$. (Received September 08, 2017)