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A Castro, Eunkyung Ko and **R Shivaji*** (shivaji@uncg.edu), Dept of Mathematics & Statistics, University of North Carolina at Greensboro, 116 Petty Building, 317 College Ave, Greensboro, NC 27412. *A uniqueness result for a singular nonlinear eigenvalue problem.*

We consider positive solutions to singular boundary value problems of the form

$$\begin{cases} -\Delta u = \lambda \frac{f(u)}{u^\beta} & \text{in } \Omega, \\ u = 0 & \text{on } \partial\Omega, \end{cases}$$

where $\lambda > 0, \beta \in (0, 1)$ and Ω is a bounded domain $\mathbb{R}^N, N \geq 1$ with a smooth boundary $\partial\Omega$. Here we assume that $f \in C^1([0, \infty), (0, \infty))$ is nondecreasing and $\frac{f(s)}{s^\beta}$ is decreasing for s large. We establish the uniqueness of the positive solution when λ is large. (Received September 25, 2012)