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 \( \Omega \) 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 \( \lambda \) is large. (Received September 25, 2012)