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Maya Chhetri and **Stephen Robinson*** (sbr@wfu.edu), Department of Mathematics, Wake Forest University, P.O. Box 7388, Winston-Salem, NC 27109. *Multiple Positive Solutions for Singular Boundary Value Problems.*

We establish the existence of multiple positive solutions of the boundary value problem

$$\begin{aligned} -u'' &= \phi g(u)u^{-\alpha} \quad \text{for } 0 < x < 1, \\ u(0) &= 0 = u(1), \end{aligned}$$

where $\phi \in L^1_{loc}(0, 1)$ is positive, $g : [0, \infty) \rightarrow [0, \infty)$ is continuous and positive, and $\alpha > 0$. We assume that the graph of $\frac{u}{g(u)}$ is roughly S-shaped in that it rises from 0 to a maximum and then descends to a minimum before rising again. Three positive solutions are obtained as the limit of the solutions to corresponding truncated sublinear problems which are obtained using the method of sub and super solutions. (Received August 05, 2006)