

1014-34-955

M Chhetri and **S Robinson*** (sbr@wfu.edu), Wake Forest University, Department of Mathematics, P.O. Box 7388, Winston-Salem, NC 27109. *Multiple positive solutions for a singular positone problem.*

Consider the boundary value problem $y'' + \lambda\phi(t)y^{-\mu}f(y) = 0$ in $(0, 1)$ with $y(0) = y(1) = 0$. We assume λ and μ are positive parameters, $\phi(t)$ is a weight function satisfying an integrability condition, and f is a bounded positive continuous function modelled on examples that are both positive and monotone, i.e. *positone*. We show that the given problem has at least three positive solutions when f satisfies certain conditions. This work is related to the singular results of Taliaferro, and to the nonsingular results of Shivaji, et. al., Henderson & Thompson, and others. (Received September 26, 2005)