

1086-34-181

Nadir Ali Benkaci (radians_2005@yahoo.fr), Faculty of Sciences, University of M'Hmed Bouguerra, Boumerdes, Algeria, **Abdelhamid Benmezai** (abenmezai@yahoo.fr), Faculty of Mathematics, USTHB, P.O. Box 32, Dynamical Systems Laboratory, El-Alia Bab- ezouar, Algiers, Algeria, and **Johnny Henderson*** (johnny_henderson@baylor.edu), Department of Mathematics, Baylor University, Waco, TX 76798-7328. *Existence of a positive solution to a three point ϕ -Laplacian boundary value problem via homotopic deformation.*

Under suitable conditions and via a homotopic deformation, we provide existence results for a positive solution to the three point ϕ -Laplacian boundary value problem, $-(a\phi(u'))'(x) = b(x)f(x, u(x))$, $x \in (0, 1)$, $u(0) = \alpha u(\eta)$, $u'(1) = 0$, where $\phi : \mathbb{R} \rightarrow \mathbb{R}$ is an increasing homeomorphism with $\phi(0) = 0$, $\alpha, \eta \in [0, 1)$, $a, b \in C([0, 1], [0, +\infty))$, $a > 0$ in $[0, 1]$, b does not vanish identically, and $f : [0, 1] \times [0, +\infty) \rightarrow [0, +\infty)$ is continuous. (Received August 03, 2012)