Daniel Brumley*, dbrumley1@uco.edu, and Britney Hopkins. The Existence of Solutions to an Even-Order Boundary Value Problem.

We outline a method for proving the existence of multiple positive solutions to an even-order differential equation with nonhomogeneous boundary conditions. Beginning with a transformation of the problem into a system of second order differential equations satisfying homogeneous boundary conditions, our method culminates in successive applications of the Guo-Krasnosel’skii Fixed Point Theorem to produce the desired result. (Received September 26, 2017)