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Joon Hyuk Kang* (kang@andrews.edu), Department of Mathematics, Andrews University,
Berrien Springs, MI 49104. *Positive Solutions to a General Non-linear Second Order System with
Applications.*

We study mathematical conditions to guarantee the existence of positive solutions to a general non-linear second order system of partial differential equations with homogeneous boundary conditions. This result may apply to illustrate biological conditions under which species of animals residing in the same environment can peacefully coexist forever. (Received September 21, 2015)