

1096-VL-2080 **Joon Hyuk Kang*** (kang@andrews.edu), Department of Mathematics, Andrews University,
Berrien Springs, MI 49104. *Coexistence condition of two species of animals residing in an
environment.*

Two species of animals are competing in the same environment. Under what conditions do they coexist peacefully? Or under what conditions is either one of the two species become extinct, that is, either one of the two species excluded by the other? It is natural to say that they can coexist peacefully if their reproduction rates and self-limitation rates are relatively larger than those of competition rates. In other words, they can survive if they interacts strongly among themselves and weakly with others. We investigate this phenomena in the mathematical point of view by modeling of a system of Partial Differential Equations. (Received September 17, 2013)