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**Samuel R Kaplan\*** ([skaplan@unca.edu](mailto:skaplan@unca.edu)), One University Heights, CPO #2350, Asheville, NC 28804. *Eccentricity and co-orbital dynamics*. Preliminary report.

A planar three-body system is co-orbital when there is a dominant central mass and two small masses orbiting with nearly equal radii. There are two well-explored sets of parameters where the small bodies either pass each other, acting as independent Kepler problems or the two bodies switch orbits, called a horseshoe orbit. For parameters between these two cases, there is the possibility of near-collision behavior. Presented is a numerical survey of these in-between parameters and the ensuing changes in eccentricity. (Received February 14, 2011)