## Abstract Submitted for the OSF07 Meeting of The American Physical Society

Survivability of Planetary Satellites During the Uranus/Neptune Ejection N.H. SELAN, S.G. ALEXANDER, Miami University, N.P. ABEL, University of Cincinnati — Recent work has proposed that the ice giant planets, Uranus and Neptune, did not form where they are located today in the Solar System. Instead, they originated in the present region of the gas giants, Jupiter and Saturn, and then were later gravitationally scattered into highly eccentric orbits that took them out into the Kuiper belt. Interactions with the Kuiper belt objects would slowly circularize their orbits to their present semi-major axes and eccentricities. It is unclear if the ejection process has any effect on systems of planetary satellites that may have existed at this time. We investigate this possibility through a series of simulations that include satellite systems around both the gas giants and the ice giants. For initial conditions, we chose to duplicate those of Tsiganis et al. (2005)

where the ejection is caused by a Jupiter/Saturn resonance crossing. Preliminary

results of several simulations are presented.

Nicholas Selan Miami University

Date submitted: 26 Sep 2007 Electronic form version 1.4