

Abstract Submitted
for the 4CF14 Meeting of
The American Physical Society

Exploring Exomoon Habitability Using Python GEOFFREY WARREN, Weber State University — Based on the life systems on Earth, one of the most basic limiting conditions for the existence of life on any celestial body is the existence of liquid water. There exist certain orbital boundaries around a star that can allow for these conditions on a planet. However, many stars have gas giants within these habitable zones that are not, by nature, suitable for life. This project explores the conditions that would allow for liquid water on a moon with a mass large enough to support an atmosphere and orbits around a gas giant within a star's habitable zone using a basic python-based climate model and orbital simulation. The scope of this project will eventually include the ability to use data from known star systems and simulate the optimal orbit of a life-supporting exomoon in that system.

Geoffrey Warren
Weber State University

Date submitted: 12 Sep 2014

Electronic form version 1.4