

OCEAN WORLDS OF THE OUTER SOLAR SYSTEM. K. P. Hand¹, ¹Jet Propulsion Laboratory, Caltech, khand@jpl.nasa.gov

Introduction: At least five moons in the outer solar system may harbor liquid water oceans. These oceans have likely persisted for much of the history of the solar system and as a result they are highly compelling targets in our search for life beyond Earth. I will provide an overview of the science behind why we think we know these oceans exist, what we know about the physical and chemical conditions that likely persist on these worlds, and how we may proceed in our search for biosignatures on these worlds. I will focus on the surface chemistry of Europa and Enceladus and connect laboratory spectroscopic and spectrometric measurements to ground and space-based observations of their surfaces. I will conclude with an overview of the latest progress on missions to explore ocean worlds, with a focus on the Europa Lander mission concept.