

SPACE EXPLORATION SYMPOSIUM (A3)
Space Exploration Overview (1)

Author: Mr. Jeremiah Pate
United States, miahtpate@gmail.com

SABERWING: A TECHNOLOGY DEMONSTRATION FOR INTERPLANETARY SMALL
SPACECRAFT**Abstract**

Saberwing is a 6U CubeSat mission with the objective of exploring the moon while testing several new technologies. It is also a potential contender for the NASA CubeQuest Challenge. Although low earth orbit has been revolutionized by nanosatellite design, deep space/ lunar exploration have varied little from multimillion dollar missions. In order to expand the scope of planetary exploration, we have designed an adaptable lunar nanosatellite which leverages several new technologies such as 3-D printed construction, photonic integrated chips, and a miniaturized optical communication package. Saberwing will analyze the lunar surface with a thermal and multispectral imager, demonstrating planetary exploration from a nanosatellite/CubeSat platform. Currently planned for launch in the second half of 2017, success of Saberwing will show that interplanetary spaceflight can be conducted at a low cost and without the need of a primary interplanetary parent craft.