

Interactive Presentations (IP)
Topic 2 - Interactive Presentations (2)

Author: Ms. Hannah Rana
University of Oxford, United Kingdom, hannah.rana@eng.ox.ac.uk

THERMAL ANALYSIS METHODS FOR PLANETARY LANDERS FOR LUNAR EXPLORATION

Abstract

Planetary landers for lunar exploration require careful thermal design and analysis. Areas of landing on the moon of particular international interest, namely the South Pole, impose harsh climates on a lander which require prediction and thermal control. Furthermore, assessment of the thermal impact of thruster nozzles and their plumes on landing technology such as LIDAR cameras demands analysis and consideration. This research presents several thermal design considerations that need to be made in order to permit suitable landing, ensure thermal environment protection, and enable successful extraction of resources from the moon. The latter of these research efforts form part of the larger aim of establishing sustainable methods for utilizing resources on the moon, bringing us one step closer to realising a 'Moon Village'.