APPLICATIONS OF NON-LINEAR PROGRAMMING FOR LUNAR MISSION BW-1 TRAJECTORY OPTIMISATION TO FURTHER MISSIONS

Abstract

A new approach to trajectory optimisation was developed for the all-electric satellite Lunar Mission BW-1, proposed by the Institute for Space Systems (IRS) at the University of Stuttgart, due to the long duration of the mission and the many severe non-linearities on the thrust profile resulting from the very-low-thrust propulsion system. This paper presents alternative missions that could be undertaken by universities similarly constrained by cost and resources.