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ANALYSIS OF ORBIT DETERMINATION PRECISION FOR CHINESE LUNAR EXPLORATION
SPACECRAFT

Abstract

This article researches error sources that would affect orbital determination accuracy in Chinese lunar exploration program when we choose some orbital determination method. Factually, there are many factors affecting orbit determination precision. We consider some observation arc after once maneuvering. With the USB and VLBI tracking networks closing to actual situation, we investigate the influence of observation accuracy, orbital error, observation arc, distribution of tracking network and systematic error. At last, we use Monte Carlo to simulate and analyze. The simulation indicates that this technology of orbit determination is reasonable and feasible.