

Poster Session (P)

Poster Lunch (1)

Author: Mr. Liang Huisheng
China, 13401178194@163.com

RESEARCH ON A NOVEL DOUBLE-BUS POWER SUPPLY SYSTEM FOR MICRO-NANO-SATELLITE AND ITS PARALLEL OPERATION MANAGEMENT STRATEGY

Abstract

According to the different mission requirements for the power supply between the long-term-operation platform with low power consumption and the short-term-operation load with high power consumption, a novel design scheme of parallel operation based on the double-bus power supply is proposed in this paper. The composition and operational principal are discussed, and then the energy managemnet strategy for parallel power supply is established under the condition of the normal and fault operation, respectively. The parallel-power-unit and its controller is designed to achieve the energy deployment between two power supply buses. And then, the modeling for the double-bus parallel power supply is obtained in the different operation modes. Finally, the experiment is carried out, and both the simulation and experimental results suggest that the scheme of double-bus parallel power supply can meet the demand and validate its effectiveness.