

Attitude Control Augmentation for Combined Attitude and Thermal Control System.

Abstract

An approach that incorporates the Active Force Control (AFC) technique into a conventional Proportional-Derivative (PD) controller is proposed for spacecraft attitude controls. The combined attitude and thermal control system (CATCS) is proposed as an attitude control actuator. All the governing equations are established and the proposed attitude control architecture is made amenable to numerical treatments. The result shows an important attitude pointing enhancement using the AFC technique in CATCS.

Keyword: Spacecraft; Attitude Control; Thermal Control; CATCS, AFC Control