

EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Sensors and Technology (3)

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RESEARCH ON TECHNOLOGY ISSUES OF TDICCD CAMERA IMAGING ON ELLIPTIC ORBIT

Abstract

When the Earth observation satellite images on an elliptic orbit, some of its parameters in different imaging areas, such as illumination condition, satellite altitude, and ground velocity, will vary continuously in a wide range. Such variation would bring a few characteristics to the on-board TDICCD camera, including quick imaging parameters change, high real-time requirements, remarkable difference between radiation and geometrical characteristics in image stripes, difficult imaging processing, and so on. Based on analysis of elliptic orbit characteristics and simulation of continuous imaging in a wide range on the elliptic orbit, this paper discussed key issues of TDICCD camera imaging on an elliptic orbit, i.e., imaging parameter self-adjustment, ground radiation calibration, TDICCD synchronization control, imaging processing technology, etc.. The conclusions are expected to help obtain perfect image quality during the course of TDICCD camera imaging on an elliptic orbit.