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THE STUDY OF ATOMIC OXYGEN ENVIRONMENT PROTECTION DESIGN AND EXPERIMENT  
TECHNIQUES FOR SPACECRAFT

**Abstract**

Atomic oxygen is the main component of the atmospheric environment in low-Earth orbit (LEO), the chemical activity is much higher than the molecular oxygen, is one of the environmental factors of the most severely affected of LEO spacecraft. With the increasing demand of the LEO spacecraft performance and working life, the effect of the atomic oxygen erosion to the spacecraft materials is more serious. According to the flight test data on the spacecraft, ground tests and analysis results, orbit atomic oxygen environment prediction for model development and to summarize targeted atomic oxygen protective design methods used in engineering practice. The conditions of the ground screening test of the atomic oxygen erosion are also provided as the reference for the formulation of the test specification.