

SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)

Space Weather Prediction and Effects on Space Missions (3)

Author: Ms. Funmilayo Erinfolami

African Regional Center for Space Science and Technology Education in English (ARCSSTE-E), Nigeria,
vieve4real@gmail.com

Dr. Babatunde Rabi

Centre for Space Research and Applications, FUTA, Nigeria, tunderabiu@yahoo.com

IMPACT OF SPACE WEATHER ON SATELLITE MATERIAL DEGRADATION

Abstract

The fact that satellites often operate in space environment for a long period of time has necessitated the need to critically consider and research the effect of the space environment on the degradation of satellites. This study is aimed at investigating the connection between space weather events and the anomalies that arise from degradation of the materials that satellites are made of. In this research, seventeen satellite anomalies were studied. Space weather indices data were obtained for the period that each of the anomalous event took place and was analysed. The resulting charts were discussed extensively. It was concluded that more research has to be done on getting materials that can withstand the effects of pounding from high energetic particles in the space environment.