Paper ID: 68130
student

29th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Interactive Presentations - 29th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (IP)

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ENVIRONMENTAL SATELLITE TO MONITOR REAL-TIME ENVIRONMENTAL PARAMETER CHANGES IN RESPONSE TO INCREASED CLIMATE ACTION

Abstract

Environmental Satellite is a simulation of a real satellite with a mass of less than a thousand grams and integrated with subsystems such as on-board computers, microcontrollers, sensors, and communication systems. Climate change presents the single biggest threat to sustainable development. So, a prototype of an Environmental Satellite was created as a research project to monitor the different aspects of the environment. The main objectives include measurement of environmental parameters such as temperature, pressure, altitude, dust, humidity, and pollution. The data collected by the sensors were transmitted in real-time through wireless channels, retrieved, and processed on-ground station. This data was stored in our database and represented graphically in the Graphical User Interface. The data from the device was analyzed and compared with standard data to check its accuracy. This device transmitted data directly on the cloud which can be accessed from any part of the globe. The system was capable of transmitting data through Radio Frequency which could be helpful for research in remote areas. The data provided by the sensor was analyzed and compared with standard data from open weather maps and the system was found to be accurate with a 95% confidence level.