A NASA First in Nano-Technology: Nano-Electronic Devices in Space

The first active nano-electronic device flown in space was launched on a flight demonstration of a nano-chemical sensor aboard a US Navy satellite in 2007. The same sensor was flown again to the International Space Station (ISS) in 2009 as part of JPL electronic nose for crew cabin air quality monitoring.

Achievement
No one had ever flown an active nanotechnology-based electronic device in space before. The sensor successfully sensed 20 ppm nitrogen dioxide (NO2) supplied periodically and confirmed the ability to reproduce similar data obtained in the laboratory. This demonstration showed that carbon nanotube (CNT) devices can sustain the rigorous launch process and opened the door to using nano-chemsensors and other CNT devices in future space missions.

Timeframe
2007

Location
NASA Ames Research Center

Mission Directorate
Center IRAD

Program
Center IRAD

Anticipated Benefits
The successful experiment demonstrated that NASA could use nano-devices to conduct science and obtain data on space missions.

Point of Contact
Meyya Meyyappan

Links
https://ntrs.nasa.gov/search.jsp?R=20190030487 2020-01-17T16:58:32+00:00Z
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