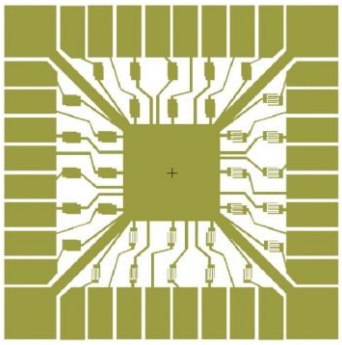
National Aeronautics and Space Administration

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	
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	

NASA First: record breaking achievement