

26th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
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ADVANCES IN THE UCH-SAT NANOSATELLITE DESIGN USING COMMERCIAL ELECTRONICS
DEVICES

Abstract

In 2015, at the Image Processing Research Laboratory (INTI-Lab) of the Universidad de Ciencias y Humanidades, one proposed the INCA programme (Programme in Aerospace Science Research). As a part of this programme, the design of a nanosatellite was included. Although the progress was plodding, after three years one wants to show these advances. One of the main limitations to have access to space, especially for developing countries, is the high cost of missions. In this sense, in the present work, we propose the use of commercial electric, electronic and electromechanical (EEE) devices, these being more economical than those for military use. In recent years, the design, implementation, and deployment of nanosatellites have increased exponentially, and these nanosatellites use commercial components known as COTS, which makes it possible to reduce the costs of the mission. In recent years, the term "Space COTS" developed in Germany has been designed to indicate those commercial components that have been qualified for use in space. The use of the Space COTS will allow a reduction of the costs of a nanosatellite mission. Due to the technological advance, nanosatellites missions have been achieved not only for educational purposes but also for more scientific tasks, in the same way.