

IAF MATERIALS AND STRUCTURES SYMPOSIUM (C2)  
Interactive Presentations - IAF MATERIALS AND STRUCTURES SYMPOSIUM (IP)

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INNOVATION, DESIGN, AND IMPLEMENTATION OF NATURAL COMPOSITE MATERIALS FOR  
THE DEVELOPMENT OF BIODEGRADABLE STRUCTURES IN NANOSATELLITES.

**Abstract**

Nowadays there are hundreds of inactive satellites in orbit of our planet; space debris is an issue that has been debated within our society for many years, it is relevant in space environmental priorities, however, nowadays it has begun to experiment with reusable orbital launch systems to decrease the existing space garbage. Nevertheless, payloads, which are the main reason for these flights, continue to be a latent problem. The present research addresses the structural analysis of the interactions to which the nanosatellite will be subjected, as well as its behavior in the space environment using different test methods; therefore, solutions are proposed through the use of biodegradable composite materials for the manufacture of the structures, using natural fibers, such as coconut or cane fiber, to reduce the environmental impact, combating the production of space debris fragments.