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SATELLITE INTERCOMMUNICATION BETWEEN THE NANOSATELLITE "AZTECHSAT-1" AND THE SATELLITES CONSTELLATION OF GLOBALSTAR.

Abstract

AzTechSat-1 is a one-unit CubeSat nanosatellite class, developed in UPAEP-Mexico and sponsored by the AEM (Mexican Space Agency), CONACYT (National Council of Science and Technology of Mexico) and NASA. The mission of the AzTechSat-1 is a technological demonstration, which was assigned by NASA, which consists of making a one-way communication with the constellation of Globalstar satellites, to improve the transit of data to the earth without having to go through a station terrestrial, using a simplex modem, that is, at any time of its orbit the cubesat will send the data of its mission, for the AzTechSat will be its housekeeping, to the constellation of satellites of Globalstar, and this in turn will send the data to its earth stations located around the world, so that they are left in a site or internet repository, and in this way the data can be recovered by mission operation team. It should be noted that NASA is supporting with the assessment, the evaluations of the different stages of development of the systems engineering methodology, and will also support with the launcher to take the "AzTechSat-1" to the International Space Station (ISS) and from there it is released in its corresponding orbit, this release is scheduled for autumn 2019.