

SMALL SATELLITE MISSIONS SYMPOSIUM (B4)
Small Satellite Operations (3)

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PSN - PERUVIAN SATELLITE NETWORK

Abstract

Peruvian universities are in charge of the design of a national concept for the implementation of a Network of ground stations for small satellite missions. This project has to stimulate the Peruvian industry. The main idea of the proposed network shall be supported not only by Peruvian government institutions, but also by national and international universities. The establishment of such a program has already been started and a couple of European entities and universities are interested in becoming co-partner within the project. The ground stations will be located in remote places in Peru thus providing wide communication coverage, permitting longer contact capabilities between the satellite and the ground, and creating a complex space and ground based system. A network including these places will cover a landscape area larger than 1.5 Mio Km². In general small satellites use a low data rate downlink. Due to less number of access and low power capacity the usage of an UHF transmitter is the only possibility. The proposed network will widen the contact possibility with the satellites and this way there will be more opportunity to dump a higher amount of data. Since the communication system for small satellites are developing in a rapid pace, this network would be beneficial to dump data faster and it will have the option to collect and distribute data in an effective manner for the users. This will allow generating more accurate data from the instruments or from the spacecraft itself. The network will be implemented, at a first level, with UHF band antennas and in near future will be translated for S-band antennas. The concept of this network include also the upgrade of the nodes with Ku-band and Ka-band antennas. Other important goal is the functionality of each node, allowing a efficient management and service of the network.