

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Near-Earth and Interplanetary Communications (5)

Author: Mr. Roberto Cabrera
UPSLP, Mexico, 101490@upslp.edu.mx

Mr. Victor Omar Zapata Gaitan
UPSLP, Mexico, 110239@upslp.edu.mx
Dr. Juan Antonio Cabrera Rico
UPSLP, Mexico, antonio.cabrera@upslp.edu.mx

THE NASA INTERPLANETARY NETWORK AND THE ADOPTION OF COMMUNICATIONS
LASERS.**Abstract**

Over time they have been studying communications protocols, seeking to create a reliable and fast communication now try to communicate through the cosmos to connect anywhere in the universe to try to communicate systems traveling in open space.

In 1998 March began an investigation into protocols that tolerate high latency (signal delay) as such as the Protocol Packet (BP Bundle Protocol) and the Protocol Transmission Links (LTP Licklider Transmission Protocol) to provide support our current communication system to radio frequency space; also worth noting the strong support of the National Administration of Aeronautics and Space Administration (NASA) and the Russian Federal Space Agency (FKA) as precursors thereof, who hand with renowned researchers have developed what is now called as Interplanetary Network (IPN Interplanetary Network), which is aimed at studying tolerant networks Delays (DTN Delay tolerant Networks).

The use of lasers allow communications links provide greater bandwidth, but have to consider the different operating characteristics of the same and different possibilities that can be found between a transmitter and receiver in constant motion,

However, the real importance of the interplanetary network is its reliability in maintaining communication between spacecraft and ground control bases. It is also the way to Mars the first network reality or laser transmission to support high-speed signal is put into use, as well as several communications antennas are installed on planets, satellites and asteroids.

It is so that countries can take advantage of this technology to conduct research partnerships, both academic and business given the world a wealth of knowledge and technological advances.

The objective of the research is to give the antecedents the operation of the Interplanetary Network and the possible adoption of communications lasers so they can be integrated into the interplanetary network and in conjunction with radio frequency-based links.