

Joint COST 227/231 Meeting
Mobile and Personal Communications
Florence, Italy, 20-21 April 1995

ABSTRACT

Integration of Satellite and Terrestrial Networks at JPL

Deborah S. Pinck
JPL
4800 Oak Grove Drive, M/S 161-241
Pasadena, CA 91109
Phone: (81 8) 354-8041
Fax: (81 8) 393-4643
e-mail: pinck@zorba.jpl.nasa.gov

The presentation will focus on the activities at JPL on the integration of satellite and terrestrial networks for mobile and personal communications. Our activities fall into two categories: 1) advanced systems work and 2) laboratory and field experimentation. In support of the former, results of a workshop held at JPL on PCS Integration and Interoperability will be presented. This workshop covered topics which are considered essential for smooth integration of satellite and terrestrial PCS networks. These topics include: development of a satellite/PCS reference model, network management issues, common service definitions, and technical requirements for common satellite vocoders. Also in support of the advanced studies work, the pivotal role of satellites in realizing the National and Global Information Infrastructures will be discussed.

A series of different experiments have been conducted in support of integrated satellite and terrestrial networks for mobile and personal communications. The various experiments will be described and the results of the data analysis effort will be presented. Propagation measurements at **Ka-band** will be provided, with an emphasis on the mobile environment. Finally, and most important, results will be presented from the satellite-enhanced PCS experiment recently completed. This series of experiments (conducted in collaboration with **Bellcore**) investigated the performance of PCS applications operating over a diverse set of wireless (satellite and terrestrial) and wireline networks. In conclusion, the future plans of JPL's Mobile Satellite Communications Program will be described.