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Subject: Abstract for clearance

Charlotte-

Attached in MS Word (and also as ASCII below) is an abstract for clearance by your office.  I
would like to submit this to SpaceOps98, a conference to be held on June 1-5, 1998 in Tokyo,
Japan, sponsored by NASDA (Japan's national space agency).

The name of my immediate supervisor, which you requested, is Les Deutsch.

Thanks!

-Chad
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NASA's Deep Space Telecommunications Roadmap

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Abstract

With the advent of faster, cheaper planetary missions, the coming decade promises a significant growth in the number of missions that will be simultaneously supported by NASA's Deep Space Network (DSN). In addition, new types of missions will stretch our deep space communications capabilities. Ambitious outer planet missions, with extremely tenuous communications links due to their great distance, and data-intensive orbiter *or in situ* missions incorporating high-bandwidth science instruments, will demand improved telecommunications capabilities. Ultimately, our ability to create a virtual presence throughout the solar system will be directly linked to our overall deep space telecommunications capacity. The Telecommunications and Mission Operations Directorate at the Jet Propulsion Laboratory, which operates NASA's Deep Space Network, has developed a roadmap for deep space telecommunications through the year 2010 which meets these challenges. Key aspects of this roadmap are: 1) a move to efficient, standard communications services; 2) development of an end-to-end flight-ground communications architecture and co-ordination of flight and ground technology developments; 3) rapid infusion of Ka-band and optical communications technologies into the DSN and into future spacecraft. This paper will present this roadmap, describe how it will enable supporting an increasing mission set while also providing significantly increased science data return, summarize the current state of key Ka-band and optical communications technologies, and identify critical path items in terms of technology developments, demonstrations, and mission users.

TMOD

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