COORDINATING UHF RELAY ACTIVITIES AT MARS

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ABSTRACT

The Mission Management Office at the Jet Propulsion Laboratory has been tasked with coordinating the relay of data between multiple spacecraft at Mars in support of the upcoming lander/rover missions in early 2004. The confluence of 3 orbiters (Mars Global Surveyor, Mars Odyssey and Mars Express), 2 rovers (Mars Exploration Rovers A & B) and 1 lander (Beagle 2) has provided a challenging operational scenario requiring careful coordination between missions to provide the necessary support and to avoid potential interference during simultaneous relay sessions. This paper will describe the processes that will be used for coordinating and commanding relay activities between these spacecraft. The processes that have been developed are intentionally designed to facilitate communication between multiple projects, without regard for ownership of the respective spacecraft. As such, they are useful for coordinating relay activities not only between NASA spacecraft, but can also be used to support other international partners, with NASA concurrence. This paper will describe how these processes are intended to provide maximum support for destination and/or source assets in a relay network, minimize the amount of human involvement in the planning process, and meet the requirements of all projects in the most time-efficient and cost-effective manner possible.