**Interplanetary Small Satellite Conference**

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**OMSPA Deployment in the DSN**

The era of Interplanetary Small Satellites is causing ground station congestion. All of these CubeSat activities require significant infrastructure with large aperture antennas for deep space telecommunication. With high demand on mission support, the Deep Space Network (DSN) is looking into techniques to increase the antenna utilization for the larger set of missions. The Opportunistic Multiple Spacecraft Per Antenna (OMSPA) project performs open-loop recording of other spacecrafts in the antenna beam of a primary spacecraft track and uses a software receiver to demodulate and decode the recorded telemetry signals in near real-time. Telemetry frames are made available using existing offline Space-Link Extension (SLE) protocol typically in 4 but no more than 24 hours. OMSPA makes use of a fully automated scheduling process to provide additional software downlink channels using the current DSN infrastructure. Recent Artemis 1 CubeSat activities provided ample processing and testing opportunities with up to 8 spacecrafts in the antenna beam. An overview of the OMSPA project, status, and benefits will be provided.