

SPACEWIRE MISSIONS AND APPLICATIONS

Session: Missions and Applications

Long Paper

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ABSTRACT

SpaceWire is an onboard data-handling network for spacecraft which connects together instruments, mass-memory, processors and telemetry sub-systems. It offers high-speed, low power, simplicity, low cost, and architectural flexibility. The growing heritage, available technology and capability of SpaceWire make it an ideal data-handling network for many future missions. Networks can be built to suit particular applications using point-to-point data links and routing switches.

Since the SpaceWire standard was published in January 2003, it has been adopted by ESA, NASA, JAXA and RosCosmos for many missions and is being widely used for commercial and other spacecraft. High-profile missions using SpaceWire include: Bepi-Colombo, James Webb Space Telescope, ExoMars, Gaia, Astro-H, GOES-RT, Lunar Reconnaissance Orbiter, Swift, PnPSat, and TacSat.

This paper provides an overview of missions using SpaceWire. A summary of each mission is presented, its current status indicated, and the way in which SpaceWire is being used is described. ESA, NASA, JAXA and RosCosmos missions and those of other space agencies and organisations are covered.