

The Deep Space Network 1988 National Aeronautics and Space Administration, Jet Propulsion Laboratory, California Institute of Technology, 1988

JPL DESCANSO Book Series. Deep Space Communications and Navigation Series Jon Hamkins, Editor-in-Chief. The Deep Space Communications and Navigation Series, authored by scientists and engineers with many years of experience in their respective fields, lays a foundation for innovation by communicating state-of-the-art knowledge in key technologies. The series also captures fundamental principles and practices developed during decades of deep-space exploration at JPL. In addition, it celebrates successes and imparts lessons learned. Finally, the series will serve to guide a new generation of sci Discover the best Nasa Deep Space Network books and audiobooks. Learn from Nasa Deep Space Network experts like Bob Andrepont and Bob Andrepont. Read Nasa Deep Space Network books like Pioneer D Press Kit and The Interplanetary Pioneers. Volume 2 System Design and Development with a free trial. Bestselling in Nasa Deep Space Network. View More. Skip carousel. The Deep Space Communications and Navigation Series is authored by scientists and engineers with extensive experience in astronautics, communications, and related fields. It lays the foundation for innovation in the areas of deep space navigation and communications by disseminating state-of-the-art knowledge in key technologies. About the Author. WILLIAM A. IMBRIALE is Senior Research Engineer at the California Institute of Technology's Jet Propulsion Laboratory. An important historical look at the space program's evolving telecommunications systems. Large Antennas of the Deep Space Network traces the development of the antennas of NASA's Deep Space Network (DSN) from the network's inception in 1958 to the present. The Deep Space Network (DSN) is a part of that great network, sending home images of the first moonwalk, playing a critical role in the rescue of the Apollo 13 astronauts, and returning the first-ever images of another world. In 1963, the network's first year of operation, DSN communicated with three spacecraft. "Very low" might be an understatement," according to NASA's Deep Space Network Fact sheet. "The total signal power arriving at a network antenna from a spacecraft encounter among the outer planets can be 20 billion times weaker than the power level in a modern digital wristwatch battery." A plaque marks the "Center of the Universe," the nickname for the Deep Space Network command center. (Image credit: Nola Taylor Redd). Three stations for the solar system. The Deep Space Network, or DSN, is a world-wide network of large antennas and communication facilities that supports interplanetary spacecraft missions. It also performs radio and radar astronomy observations for the exploration of the solar system and the universe, and supports selected Earth-orbiting missions. DSN is part of the NASA Jet Propulsion Laboratory (JPL). Other similar networks include ESTRACK of the European Space Agency, the Soviet Deep Space Network, the Indian Deep Space Network, and the Chinese Deep Space Network. Deep Space Networks. View from the Earth's north pole, showing the field of view of the main DSN antenna locations. Once a mission gets more than 30,000 KM from earth, it is always in view of at least one of the stations.