

Status of the NASA SGSLR Subsystem Development

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Abstract: The NASA Space Geodesy Satellite Laser Ranging (SGSLR) system continues to be developed and built at the Goddard Space Flight Center in Greenbelt, MD, USA. During 2019, significant progress has been made on each of the SGSLR subsystems and several are undergoing subsystem level testing. The system software, which is integrated with the tested Time and Frequency subsystem and components of the Meteorological Subsystem, is currently under development in the SGSLR Software Laboratory facility at the Goddard Geophysical Astronomical Observatory (GGAO). Construction of the SGSLR GGAO shelter began in March and the installation of the Observatory dome was completed in May. While the SGSLR telescope build is ongoing, the Gimbal and telescope mass simulator were installed in the shelter in September for more intensive testing. The Laser is undergoing characterization testing, while the Laser Safety and Optical Bench Subsystems are being built. The Receiver Subsystem, which enables system automation and is essential to meeting the ITRF requirement, continues to be developed and is currently in high level subsystem testing and data analysis. This poster will show the status of the development each of the SGSLR subsystems.