

New Mount for San Fernando Station

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This project presents the development of a new mount for the San Fernando Satellite Laser Ranging (SLR) station, designed to achieve sub-arcsecond pointing accuracy and further enabling space debris orbit determination. Led by AVS, the scope of work involved comprehensive mechanical and controls engineering to support the San Fernando team in reaching this high performance. The mount integrates advanced direct drive motors, providing smooth and accurate motion control, while arcsecond-level absolute encoders ensure precise positional feedback. High-end control drives were implemented to manage the system dynamics with minimal error. These technologies, combined with the optimized mechanical structure, deliver exceptional stiffness and stability, enabling real-time corrections and compensating for environmental factors. The result is a state-of-the-art system that allows the SLR station to perform precise ranging operations, significantly enhancing its observational capabilities.