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### **The Gimbal and Telescope Assembly for NASA's Next Generation Space Geodesy SLR Systems**

The gimbal and telescope assembly (GTA) is one of the most important components of an SLR system and it is also the component with the longest lead time. As part of the development for the Next Generation SLR Systems, the NASA Space Geodesy Project (SGP) is in the process of procuring three highly precise and very stable GTA systems. In 2015 the SGSLR GTA team developed very stringent specifications. Design and fabrication efforts of the GTA include complex modeling to ensure precise telescope pointing and a very stable invariant point through a wide range of temperatures reflecting the variations in the climate at the expected NASA SGP Network sites. Additionally, the SGSLR GTA will need to take advantage of the multi-segmented receiver subsystem which provides range and angular information needed for automated tracking operations. The specifications and status will be presented for the three gimbal and telescope assemblies being procured as the cornerstone of NASA's SGSLR systems.