



The McDonald Geodetic Observatory (MGO)

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Continuing upon the four-decade long heritage of space geodesy at UT's McDonald Observatory, NASA Space Geodesy Project and UT-Austin are collaborating on establishing the McDonald Geodetic Observatory (MGO). The MGO is intended to be a core geodetic site, to help realize the next generation 0.1 mm/year stable reference frame in accordance with the recommendations within the NRC Precise Geodetic Infrastructure (2010) report. The NASA SGP shall furnish the laser ranging (SGSLR), VLBI (VGOS), and the GNSS systems. UT-Austin furnishes the infrastructure, and contributes research instrumentation and experiments to integrate diverse metrological systems into a unified geodetic observatory. UT contributions include superconducting gravimeter for vertical control and gravity reference, mm-Metrology experiments for inter-system ties and site characterization, software receiver experiments for signal-level integration of techniques, environmental measurement and modeling experiments, and related metrological and modeling research efforts. This paper will present the status of the MGO, present the preliminary results from these experiments, and highlight the early lessons learned in establishing a fully integrated core geodetic site.