

McDonald Ranging: 30 Years and Still Going

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The McDonald Laser Ranging Station (MLRS), a part of the NASA SLR network, ranges to artificial satellites and the Moon. It was built to replace the McDonald Observatory 2.7-m lunar-only system that operated through the mid-1980's. It is built around a computer controlled 0.76-m x-y mounted Cassegrain/Coudé reflecting telescope and a short pulse, frequency doubled, 532-nm, neodymium-YAG laser with appropriate computer, electronic, meteorological, and timing interfaces. An aircraft radar allows it to operate with a single operator. The MLRS is located on Mt. Fowlkes at McDonald Observatory, near Fort Davis, Texas. The MLRS's epoch timing system makes all targets equivalent to the observer and a crew will routinely range to many different targets, from the closest of artificial satellites to the Moon, during a single shift. Over the years it has undergone a host of modifications and up-grades. This poster describes the system as it exists now and summarizes some of the most recent changes.