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Upgraded Servo-control system for Matera 1.5 meter telescope

An upgraded state of the art servo-control system, to replace the original Contraves Telescope control system for the ASI MLRO telescope, was completed by Cybioms Corporation with support from e-GEOS in March 2016. This system uses state of the art digital electronics, servo-control hardware, and control software to perform SLR (from LEO to GEO) and LLR. The real-time command is performed by the existing MLRO HP-RT machine writing the real-time commands to its IEEE 488 GPIB ports supporting the AZ and EL axes at a rate of 10Hz and receiving the observed data at the same rate for the GUI needs of station operations. A separate servo-control computer receives the GPIB commands to drive the new servo-electronics in real-time. The tracking system currently provides the capability to point, acquire, and track satellites that has high orbit accuracy with a laser beam divergence of a few arcseconds, better than the previous controller. Data rate is improved above all for Lageos and HEO satellites. Results are highlighted in the poster.