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Deployment of millimeter SLR systems in India with automation features

Cybioms Corporation is building 2 advanced 1 meter class SLR and photometry systems, for Indian Space Research Organization (ISRO) in support of the already launched IRNSS satellites. These systems are slated for commissioning during Q4, 2016 through Q2, 2017. The systems will also have the capability to incorporate Laser Communications in the future. Advanced servo-control capability for managing the various functions are incorporated. The imaging capability on the Nasmyth side will include adaptive optics for supporting faint objects of magnitude 21 or higher with custom cameras. SLR capability will include provisions for day or night GEO ranging on IRNSS satellites along with the ILRS SLR targets from LEO to HEO satellites. SLR data will generate consistent submillimeter precision and accuracy on targets with low target depth function uncertainty. An encircling radar beam along with an ADS-B and a camera will protect the airspace for SLR operations at each station. Some of the automation capabilities support routine operations, reduced human involvement, improved data collections, and monitor / control the two stations from a remote master control facility. Salient points are addressed.