

Overview of Lishan SLR station of National Time Service Center

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In the middle of 1990s, a 1.05 meter aperture reflecting astronomical telescope was constructed at Lishan astronomical station by National Time Service Center. But due to the discipline adjustment, the telescope has not been used. With the support of Chinese Academy of Sciences(CAS), We have upgraded and refurbished this telescope recently, make it has the function of laser ranging. After a period of effort, we have obtained preliminary satellite laser ranging results. This report will introduce the details of Lishan SLR station and preliminary laser ranging results.

The Lishan SLR station is in Lishan Mountain Natural Scenic Area, in lintong, xi'an, shaanxi province, the altitude is about 1km. The station uses a telescope with horizontal structure, it track the target by azimuth and elevation. The transmitter telescope diameter is 20cm and the receiving telescope diameter is 105cm. The laser wavelength is 532nm,the repetition frequency is 1kHz, the pulse width is less than 30ps and the biggest power is 15w.

we also get some laser ranging results, for LAGEOS, the precise of ranging is about 1cm, and for navigation satellite, the precise is about 2.5cm. In the future, we will observe more satellite to analyze the performance of Lishan SLR station, and make the observational data can be further applied to other relevant study.