

Comparison of Different Frequency Laser Ranging

The BJFS (7249) SLR Station is now using new HQ Laser to make SLR observation since January 2014. This HQ Laser can send out four different frequencies laser pulses. These four frequencies are 0.5kHz, 1kHz, 1.5kHz, 2kHz, and the energy are 0.84mj, 1.26mj, 0.8mh, 0.63mj @532nm respectively. We have compared the return number and accuracy when using 1kHz and 2kHz to track one satellite in one segment. The comparative results show the return number is obviously increased then 1kHz for LOW satellite when using 2kHz, but not more different for Lageos and HIGH satellites. The accuracy is also just same for all satellites when using these two different frequencies.