

Accuracy evaluation of QZS-1 orbit solutions with Satellite Laser Ranging

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Quasi-Zenith Satellite System (QZSS) is a Japanese navigation satellite system. QZSS also has slightly elliptical and highly inclined orbits in different orbital planes. The benefit of QZSS is that QZSS can provide a seamless service from a high elevation angle to improve the positioning availability in downtown and mountainous areas. QZSS signals from high elevation angle can provide substantially better positioning availability than that of GPS alone. In order to bring about the realization of QZSS's benefit, it is necessary to determine and distribute a precise orbit as routine activity. This article provides a brief overview of the accuracy evaluation of QZS-1 orbits compared to SLR observations. The test shows that the orbit solutions processing with our software agree with the orbits using SLR data in the range of 20 - 30 cm in a radial direction.