

國立陽明交通大學應用數學系

學術演講公告

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講 題：Satellite orbit determination and its applications

時 間：114 年 11 月 25 日(星期二) 下午 14:00 –15:00

地 點：(光復校區) 科學一館 213 室

Abstract

The global navigation satellite system (GNSS) has been widely used in positioning, navigation, and timing. The GNSS satellite orbit serves as a reference datum in connection to the International GNSS Service (IGS)-defined reference frame, not only for GNSS ranging measurements but also for the so-called precise point positioning (PPP) technique. Therefore, the accuracy of the reference orbit is crucial for precise geodetic applications. On the other hand, in recent years, with the rapid development of the space satellite industry, countries around the world have been actively promoting the research, development, and application of Low Earth Orbit (LEO) satellites. These satellites have been widely utilized in scientific research and commercial sectors and are quickly advancing toward commercialization. LEO satellites refer to satellites operating at altitudes of approximately 200 to 2,000 kilometers above the Earth's surface. Compared to medium- and high-orbit satellites, LEO satellites offer advantages such as lower orbital altitude, reduced latency, and higher coverage accuracy. As technology progresses and demand increases, the application scope of LEO satellites continues to expand, particularly playing a critical role in Positioning, Navigation, and Timing (PNT) as well as in communication services.

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