

Time transfer performance of BDS-3 satellites improved

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Time transfer technology based on navigation satellites started in the 1980s. The conventional common view (CV), all-in-view (AV) and precise point positioning (PPP) time comparison methods based on

global navigation satellite system (GNSS) satellites have been widely used in remote and high-precision time comparison activities.

The BeiDou global [navigation satellite](#) system (BDS-3) was formally commissioned to provide positioning, velocity, and timing services to global users on 31 July 2020.

Researchers from the Time Keeping Laboratory, the National Time Service Center (NTSC) of the Chinese Academy of Sciences, analyzed the time transfer performance of BDS-3 signals and found that it was over 50% higher than that of the BDS-2 satellites. The elevation-dependent biases found in BDS-2 code measurements are mitigated in BDS-3.

The results were published in *Metrologia* on Oct. 28.

They analyzed the pseudorange measurement noise, precision of conventional common view (CV) and all-in-view (AV) time comparison and the instability of the precise point positioning (PPP) time transfer to assess the time transfer performance of BDS-3.

In terms of the common view time comparison, the standard deviations of the zero-baseline common clock time comparison of the new BDS-3 signals are comparable to that of GPS and Galileo.

More information: Wei Guang et al. Analysis on the time transfer performance of BDS-3 signals, *Metrologia* (2020). [DOI: 10.1088/1681-7575/abbcc1](https://doi.org/10.1088/1681-7575/abbcc1)

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