

Rapid Solution of Earth Rotation Parameters by LLR Common View

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Lunar laser ranging (LLR) has been used to solve for earth rotation parameter (ERP) since 1970s. Usually, the solutions incorporate state-of-the-art models and use as much LLR data as possible, spreaded during decades. With the current infrastructure of LLR station network and modern measurement accuracy, it is now possible to envisage rapid solution of ERPs in a common-view observation. Numerical simulations on bi-static and tri-static common-view scenarios were analysed, to explore several solving strategies. The rapid solution has potentiality to address short-term and transient geophysical changes. However, the method relies on long-term geodetic products and therefore can not replace conventional solutions.