



From ICRF2 to ICRF3: the influence on EOP determined from VLBI observations

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The variation of Earth orientation that is characterized by Earth orientation parameters (EOP) is of interest in astronomy and geophysics since the study of EOP opens a window to Earth's deep interior. In addition, EOP connects the celestial reference frame (CRF) and terrestrial reference frame (TRF) and should be in accordance with realizations of CRF and TRF. The ICRF3, a new version of CRF, was adopted by the XXX IAU General Assembly in August 2018 and has replaced the ICRF2 since 1 January 2019. Theoretically, EOP series determined within the frame of the new CRF would differ from the old one from ICRF2. We address the impact on the EOP estimates due to the switch from the ICRF2 to the ICRF3, from the view of the linear rate of EOP series and residual on the MHB nutation terms. Two VLBI solutions were run based on the VLBI sessions between August 1979 and April 2018, using the Calc/Solve VLBI software. EOP series from IVS-R1 and IVS-R4 sessions are analyzed separately to study the possible influence on our result which comes from VLBI observing networks.