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Investigation of Earth Orientation Parameters for VLBA Calibrator Survey sessions

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From 1994 to 2007 six campaigns with a total of twenty-four VLBA Calibrator Survey (VCS) observing sessions (each 24 h long) were carried out with ten radio telescopes in North America. The primary goal of those sessions was the densification of the celestial reference frames. Coordinates of about two thirds of the sources in the ICRF-2 catalogue are estimated from VCS sessions; however, their precision is up to five times worse than from non-VCS sources, which is mostly due the limited number of observations. In the analysis of the VLBI observations, Earth Orientation Parameters (EOP) were estimated alongside source coordinates. This approach results in an imperfect solution, since the network is regional and therefore not suitable for EOP estimation. We investigate the impact of EOP estimation on source positions for those sessions. In order to do that we apply the IERS C0408 combined series and compare it with EOP estimated from VCS sessions. Furthermore, we suggest strategies to mitigate the effect of EOP on the source estimates.