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BDS and QZSS in CODE's final solution -- assessment of the impact

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CODE (Center for Orbit Determination in Europe) acts as one of the analysis centers of the International GNSS Service (IGS). One of the most important products are the final series providing -- among others -- GNSS satellite orbits, satellite clock corrections and station coordinates. Currently it includes GPS, GLONASS, and Galileo satellites. The final solution series shall provide the user community a direct access to the IGS20 reference frame (the IGS-specific realization of the ITRF2020).

Regarding this purpose, the extension of the final products to other systems, in particular BDS and QZSS need a careful consideration not to degrade the access to the reference frame. We present a step-by-step inclusion of BDS (only satellites in MEO orbits) and all BDS satellites (apart from those ones in GEO orbits) using the new combined satellite antenna offsets recently computed by the IGS. Another investigation is related to the QZSS satellites where pre-launch satellite antenna calibrations are available.

As a result of the study, a potential extension of the CODE final solution series to a more complete multi-GNSS product is decided.