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System dependence of GNSS receiver antenna calibrations

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The absolute IGS antenna phase center model igs05.atx used since 2006 only includes a GPS-derived set of receiver antenna corrections. At the time this model was compiled the GLONASS constellation was too weak to perform reliable robot calibrations for GLONASS. With the highly improved GLONASS constellation that is available today it is possible to solve for differential receiver antenna offsets between the mean GPS and the mean GLONASS phase center for multi-GNSS receivers. These differences are significant and reproducible from day to day.

The newly released igs08.atx model also includes separate receiver antenna calibration values for the GLONASS frequencies. The estimation of differential receiver antenna offsets between the two GNSSes is used to evaluate the system-specific receiver antenna phase center correction values given in the igs08.atx model. The impact on relevant parameters (like station coordinates) will be discussed.