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Usage of Galileo for ionospheric correction and monitoring

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Over one year after the launch of the third and four Galileo IOV (In-Orbit-Validation) satellites and with the broadcast of the navigation message and the first Galileo only position fix, the capabilities of Galileo for ionospheric correction and monitoring are presented for a representative period of time. This includes the characterisation of the performance (ranging and position) of the single frequency correction algorithm for Galileo on a global basis and including seasonal behaviour. Such correction algorithm is based on the usage of three coefficients broadcast in the navigation message into the NeQuick G (an adaptation of the three-dimensional NeQuick electron density model). This assessment is based on data from a large number of stations.

In addition, other possibilities to compensate or monitor the ionosphere using Galileo will be discussed, including also analysis of effects of ionospheric scintillation on Galileo signals.