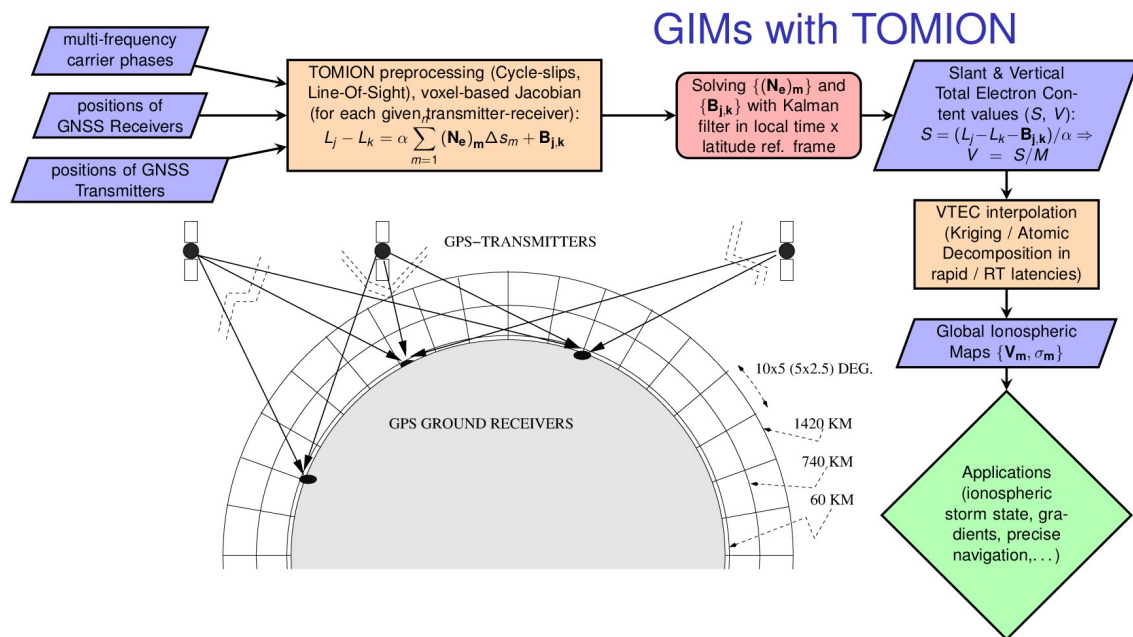


The software TOMION-I (AKA TOMION-v1-multiGNSS), has been developed during the latest three decades by the main author of the introductory papers (Hernández-Pajares et al. 1997, 1999, 2017). **TOMION-I implements a forward voxel-based ionospheric tomographic Kalman filter, able to estimate the electron densities and ambiguities (i.e. transmitter-receiver phase biases) of the input ionospheric combinations of carrier phases without the need of any constraining field of prior electron densities, and avoiding the usage of noisy and multipath-affected pseudoranges. And the transmitter and receiver code biases are computed as a derived product** (see Hernández-Pajares et al. 2011, among previous references, and layout in Figure 1).

The resulting UPC-IonSAT Global Ionospheric Maps (GIM) of Vertical Total Electron Content (VTEC), such as the rapid one “UQRG”, is typically one of the best, or the best behaving VTEC GIM among the ones produced by the ionospheric analysis centers of the International GNSS Service (IGS), see for instance Hernández-Pajares et al. (2009), Roma-Dollase et al. (2018).

Figure

1:



TOMION-v1 flow-chart (extracted from Hernández-Pajares et al., 2023b).

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