Ionospheric correction of RO signals by direct modelling of ionosphere

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The impact on RO bending angles by a model ionosphere, comprising a set of Chapman Layer electron density profiles, is calculated. Analytical solutions for impact parameters well above and well below the peak electron density are presented. By including the full calculation in the forward model component of a variational retrieval method, the L1 and L2 signals could be treated separately. This would allow retrievals to be made even if one of signals dropped out. Preliminary results from the implementation of these ideas in a standard RO processing tool will be presented.