



A revised version of the electron density model NeQuick

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Version 1 of the three dimensional and time dependent electron density model NeQuick was one of the products of the COST Action 271 submitted to and accepted by ITU-R. In the meantime the model has been revised in three steps: (1) improvements of the bottomside ionosphere, (2) introduction of simplified maps of the F2 peak properties, and (3) data based revision of the topside. Furthermore, the FORTRAN code of NeQuick has been improved which resulted in a considerable reduction of the CPU time needed to run the model. NeQuick version 2 is now ready to be submitted to ITU-R in order to replace version 1.

The software package to be submitted will contain adaptive maps for the modified dip latitude (MODIP) which allow to take into account the secular variation of the geomagnetic field. This is important in lower latitudes and especially in the region influenced by the South Atlantic magnetic anomaly. The software package will contain several driver programs, one of these will allow to calculate the Faraday effect along straight line rays from arbitrarily chosen radio sources to receivers.

We explain the three revision steps and we present comparison examples for the model behaviour.