

# **The CPW-TEC Project: Climatology of Planetary Waves seen in Ionospheric Total Electron Content Perturbations**

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Regional TEC maps over the higher middle and polar latitudes that are regularly produced by DLR Neustrelitz are investigated with respect to planetary waves with zonal wavenumber 0-5 in the period range of several days. The results are compared with planetary wave analyses using stratospheric reanalyses and mesosphere/lower thermosphere radar wind and temperature data. Case studies show that planetary waves are simultaneously found in the middle atmosphere and ionosphere. Numerical modelling of the middle atmosphere using the COMMA-LIM circulation model is performed to analyse the possible impact of tidal modulation on the penetration of PW effects into the thermosphere. The project is part of the German Priority Program “CAWSES” of the Deutsche Forschungsgemeinschaft. It aims at the construction of an upper atmosphere planetary wave climatology of PW in both hemispheres.