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On the ionospheric scales based on TEC data

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The present work shows the preliminary results from the analysis for developing the ionospheric scales based on Disturbance Ionospheric Index (DIX). This index aims to target all the different user groups affected by ionospheric disturbances, e.g. the navigation, positioning and satellite communication users, in a simple and straightforward approach. Therefore, we used the Vertical TEC (VTEC) over South America to calculate the Total Electron Content Maps covering latitudes from 60°S to 20°N and longitudes from 90°W to 30°W, with 5 x 5 degrees resolution. Afterwards, the DIX Maps are obtained to reveal the variation of the TEC over an average quiet ionosphere background. Among the results, we have different methodology for achieving the average quiet ionosphere background and disturbances in the DIX at different latitudinal sector.

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