Contributed talk

# First Steps for Deriving DIX Maps over South America

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**Abstract.** In the present paper, we present the first steps for deriving the DIXMAP over South America, which is an index primarily dedicated to express the response of the ionosphere to magnetic disturbances. In addition, we show the preliminary results for the study of the intense geomagnetic storm occurred on 08 September 2017 using the TEC Map data processed and made available by the Brazilian Studies and Monitoring of Space Weather (Embrace) Program of the National Institute for Space Research (INPE). A DIX Map covers the latitudinal range between 10° N and 60° S and the longitudinal range between 90 and 30° W, with 5° or range resolution in both coordinates. It is built at the rate of one map every 10 minutes based on the deviation of the TEC over the same area, which in turn is derived from 180 GPS receivers from 4 different networks (RBMC - Brazilian GNSS, RAMSAC, LISN and IGS). The results are presented and discussed in terms of the latitudinal evolution of the DIX with respect to the Dst index, representing the geomagnetic storm.

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