



INGV Oblique Ionograms Automatic Scaling Algorithm applied to the ionograms recorded by Ebro Observatory ionosonde in disturbed conditions

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The OIASA algorithm (Oblique Ionograms Automatic Scaling Algorithm) for the identification of trace of oblique ionograms has been applied to the oblique ionograms produced at Ebro Observatory (Spain) and related to the radiolink between the ionospheric stations of Dourbes (50.1 N, 4.6 E) and Roquetes (40.8 N, 0.5 E). Four different periods of 2015 have been analysed, each of them characterised by the occurrence of geomagnetic storms. The algorithm allows the determination of the Maximum Usable Frequency (MUF) for communication between the transmitter and receiver, and shows a very good capacity in automatically rejecting poor quality ionograms. The behaviour and performance of the autoscaling programs under geomagnetic disturbed condition have been evaluated. The results show a good agreement between MUF values provided by the automatic scaling algorithm and the MUF values manually scaled by an expert operator. Furthermore, the results show the good capabilities of OIASA in discarding ionograms that lack of sufficient information.