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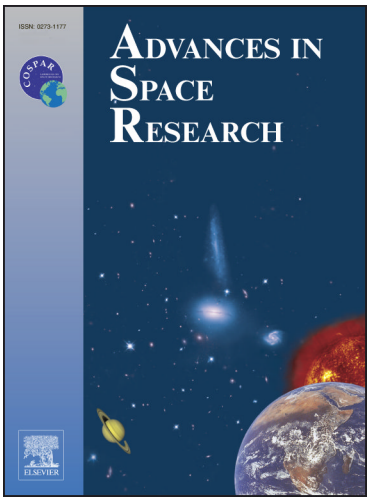

LOW IONOSPHERIC REACTIONS ON TROPICAL DEPRESSIONS PRIOR HURRICANES

Aleksandra Nina, Milan Radovanović, Boško Milovanović, Andjelka Kovačević, Jovan Bajčetić, Luka Č. Popović

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LOW IONOSPHERIC REACTIONS ON TROPICAL DEPRESSIONS PRIOR HURRICANES

Aleksandra Nina*[a], Milan Radovanović[b,c], Boško Milovanović[b], Andjelka Kovačević[d], Jovan Bajčetić[e], Luka Č. Popović[d,f]

[a] *Institute of Physics, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia.*
[b] *Geographical Institute "Jovan Cvijić" Serbian Academy of Sciences and Art, Djure Jakšića 9, 11000 Belgrade, Serbia*
[c] *Perm National Research Polytechnic University, Perm, Russian Federation*
[d] *Faculty of Mathematics, University of Belgrade, Studentski trg 16, 11000 Belgrade, Serbia*
[e] *Department of Telecommunications and Information Science, Military Academy, University of Defence, Generala Pavla Jurišića Šturma 33, 11000 Belgrade*
[f] *Astronomical Observatory, Volgina 7, 11060 Belgrade, Serbia.*

Abstract

We study the reactions of the low ionosphere during tropical depressions (TDs) which have been detected before the hurricane appearances in the Atlantic Ocean. We explore 41 TD events using very low frequency (VLF) radio signals emitted by NAA transmitter located in the USA and recorded by VLF receiver located in Belgrade (Serbia). We found VLF signal deviations (caused ionospheric turbulence) in the case of 36 out of 41 TD events (88%). Additionally, we explore 27 TDs which have not been developed in hurricanes and found similar low ionospheric reactions. However, in the sample of 41 TDs which are followed by hurricanes the typical low ionosphere perturbations seem to be more frequent than other TDs.

Keywords: tropical depressions; low ionosphere; VLF signals; Atlantic ocean

*Corresponding author
Email addresses: sandrast@ipb.ac.rs (Aleksandra Nina*), m.radovanovic@gi.sanu.ac.rs (Milan Radovanović), b.milovanovic@gi.sanu.ac.rs (Boško Milovanović), andjelka@matf.bg.ac.rs (Andjelka Kovačević), bajce05@gmail.com (Jovan Bajčetić), lpopovic@aob.rs (Luka Č. Popović)