

Monitoring effects of low intensity X-ray Solar flares from 23/24 Solar cycle minimum on VLF signals recorded in Belgrade

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D-region of the Ionosphere (50-90 km) is strongly under the influence of the Solar radiation from soft X-ray wavelength range (0.1-0.8 nm). As the consequence of incident Solar energy flux, Very Low Frequency (VLF) radio signals undergo perturbations, while transmit within Earth-Ionosphere waveguide. Based on registered VLF data, conditions within lower Ionosphere can be reproduced and electron density profiles can be obtained, by the use of the Long Wave Propagation Capability (LWPC) software and application of the Wait's theory. Effects of Solar flare events of low intensity (C and B class), in period from 2007 to 2011, during Solar minimum between 23rd and 24th Solar cycle were examined and monitored on VLF signals recorded in Belgrade (44.85N, 20.38W), at the Institute of Physics, Serbia. Solar X-ray radiation data were taken from GOES satellite database. Long Wave Propagation Capability (LWPC) software was used for numerical simulations of VLF signals' responses to analyzed X-ray Solar flare events. Main results are presented in this paper.