Abstract Submitted
for the OSS14 Meeting of
The American Physical Society

Features of Ionospheric Critical Frequency of E-Layer of Ilorin, Nigeria GBADEBO YUSUF, BABATUNDE KEJI BABATOLA, Osun State Polytechnic - Iree — This research work investigates the features of Ionospheric critical frequency of E-layer (f0E) of Ilorin (08°30'N, 04°35'E). The data used in this analysis were those obtained at Ilorin an equatorial station in Africa. The year selected for this analysis was year 2010 which represents the year of low solar activity with average sunspot number (Rz= 16.2). In order to investigate the diurnal, seasonal and variability of critical frequency of E- layer (f0E). The data were scaled, inverted and exported to Microsoft excel spreadsheet for analysis. The result shows that average f0E increases gradually from 6.00LT with peaks at 12.00LT and then decreases thereafter until nighttime between (18.00LT- 20.00LT) when the lowest value of f0E (1.5MHZ) was obtained. The result also revealed that the propagation of radio waves is best encouraged during the March equinox and June solstice because of the higher electron densities and variability at daytime observed at these seasons. In the subsequent research, solar cycle effect should be investigated in order to establish and validate the surprising low average values of foE and lowest variability observed at noon during September equinox in this work.

Gbadebo Taofeek Yusuf
Osun State Polytechnic - Iree

Date submitted: 04 Mar 2014 Electronic form version 1.4