

THERMOSPHERIC HEATING IN THE LOW LATITUDE IONOSPHERE: THE ROLE OF PHOTO-ELECTRONS

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We summarize the three classic processes for explaining the North-South asymmetry of transequatorial ionosphere and plasmasphere. We describe another heating mechanism due to photoelectron fluxes. Our views were first presented (VILA 1971) for the asymmetric foF2 pre-noon minimum at tropical latitudes. It also interprets middle-scale unstable descent coupling with neutral wind from mid-afternoon neutral wind. Recently OUATTARA et al. discussed the long term climatology (three solar cycles) of foF2 and h'F2 from OUAGADOUGOU ionograms with solar-magnetic couplings. We hope to be able compare the upper ionosphere and plasmasphere results of the DEMETER orbits, combined with the subtropical TAMANRASSET ionograms. It should illustrate the detailed ion density profiles about 10:20 local time through eclipse and variable magnetic activity control days.

ionosphere, plasmasphere, eclipses, DEMETER results

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