



Lower ionosphere large positive and negative ions are still puzzling: A potential role in ion induced aerosol formation

Frank Arnold

Max-Planck-Institute for Nuclear Physics, Atmospheric Physics, Heidelberg, Germany (frank.arnold@mpi-hd.mpg.de)

Inspired by greatly improved possibilities in future rocket borne high mass resolution ion mass spectrometry, previous pioneering rocket borne ion-mass spectrometer measurements, made by our MPIK-Heidelberg research group in the lower ionosphere, are revisited and reanalyzed. Here the focus is placed upon puzzling observations of lower ionosphere large positive and large negative ions. These have a role in lower ionosphere free electron removal. They also have a potential role in lower ionosphere aerosol and eventually even cloud formation. Measurements and model simulations are presented.