



**Auxiliary Figure 2** – In this Figure, we show the same data as in the bottom left of Figure 5 in the manuscript: ionospheric energy deposition rates for Pc5 waves (6 mHz). However, the data are subdivided according to where the THEMIS satellite observed the Poynting vector that was mapped to the ionosphere. The right panel is for latitudes (using the T89 model magnetic equator for reference) less than 3.65 degrees (close to the magnetic equator), the middle for latitudes between 3.65 and 8.56 degrees, and the right for latitudes greater than 8.56 degrees (far from the equator). All panels show a similar peak in energy deposition in the post-noon sector. This demonstrates that this peak is not due to the irregular sampling of magnetic latitudes in different local time sectors (Figure 2B in the manuscript).