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Properties of the Electron Temperature Enhancement beneath the Magnetospheric Cleft

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A prominent peak in the electron temperature of the topside ionosphere is observed beneath the magnetospheric cleft. The present study uses DE 2 data to investigate this phenomenon. First, the dependence of the location and magnitude of the temperature peak on the magnetic activity is determined. Next, using a superposed epoch analysis, the mean latitudinal profile of the temperature enhancement is derived. Finally, the correlation of the heating effect with density perturbations is investigated.