

Statistical feature of Omega band aurora observed by THEMIS all-sky imager network

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We examine morphological and statistical characteristics of Omega band auroras. In order to study statistical feature of Omega band aurora we used the THEMIS ground-based all-sky imager network data for 8 years from January 2007 to December 2014. Omega band auroras show their own distinctive behavior on shape and movement, so we could easily pick up an Omega band auroral event from the THEMIS summary plot database on keogram and all-sky image. Consequently, we could identify ~330 events of Omega band type auroras.

In this study we examine statistical features for the following parameters when Omega aurora observed; 1) magnetic local time (MLT), 2) seasonal variations, 3) annual variations, 4) life time, 5) drift speed, 6) scale size, 7) Kp and AE index dependence, 8) solar wind speed and pressure, 9) IMF By and Bz dependence. Then we will discuss their signature.

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