



Cluster multi-spacecraft observations of electron and ion holes in the Auroral Acceleration Region

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In spring 2013, the Cluster spacecraft visited the Auroral Acceleration Region (AAR) for the second and final time. The spacecraft constellation was arranged to produce very small separation magnetic field aligned conjunctions (~ 10 s km) between C3 and C4, with C1 relatively nearby. The goal was to allow study of electron and ion holes, including their propagation between C3 and C4, and their roles in generating waves that may be observed locally and also at C1. Detailed planning work has tried to maximize the opportunities to use the Cluster payload effectively during these conjunctions, but the presence of auroral activity during the relatively few AAR passes could be guaranteed in advance. The dataset may also be valuable for other aspects of auroral science, as data is collected throughout the AAR crossings, not only at the conjunctions. We intend to present first results from this campaign.