



## Wavy Current Sheet in Space and on the Ground

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One event from the ECLAT wavy current sheet event list (15 October 2004) is studied where the Cluster spacecraft are located near the dusk flank of the Earth's magnetotail (-12, 7, 4) Re in GSM coordinates. It is the purpose of this investigation to see whether the waves measured in the Earth's magnetotail have a counterpart in the magnetometer measurements on the ground. For the event under consideration, the Cluster data show a fast earthward plasma flow, after which the current sheet starts to oscillate with "harmonic" waves near the Pi2 frequency band. Investigating the normals of the current sheet during these waves shows that this is magnetotail flapping. The magnetic foot points of the Cluster spacecraft are near the 210 meridian stations TIK and KTN. Only TIK shows power at the same frequency as Cluster, whereas KTN does not show any signature of these waves. The curlometer technique applied to the Cluster data shows that there are strong, variable, field-aligned currents during the flapping period, which may couple the flapping to the ground over a small range of longitudes.