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The characteristics of thin current sheets in the magnetosheath

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We are investigating thin current sheets observed by the Cluster spacecraft in the magnetosheath close to a bowshock crossing. The current sheets are examined both using a time series approach and by applying turbulence methods. The typical width of a current sheet is found to be about an ion gyro radius and the typical distance between two current sheets corresponds to 1-2 ion gyro radii. Moreover, it seems that current sheets observed in the magnetosheath are a manifestation of turbulence, that is well described by an extended Kolmogorov model, including spatial intermittency.