Reconnection site and ion scale turbulence generation

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We analyze in detail a reconnection site observed by the Magnetospheric Multiscale (MMS) mission in the magnetotail. The interval around the X-line is identified based on the ion jet reversal, Hall electric fields and other reconnection signatures. At the reconnection site strong electric fields with amplitudes above 100mV/m are observed. In addition, the region shows strong turbulent variations on ion scales, including magnetic island-like structures. We discuss the cause of strong electric fields, their relation to ion scale structures and associated particle acceleration in this region. Of particular interest is the relation of the reconnection site to the generation of kinetic Alfvén waves.