The magnetic reconnection process transforms magnetic energy into particle energy and changes magnetic field topology. Reconnection occurring in the near-Earth magnetotail has been associated with fast plasma flows in the plasma sheet, dipolarization of the near-Earth magnetic field and auroral substorms.

Using a list of 22 magnetotail reconnection events observed by the Cluster satellites, an investigation of the corresponding magnetospheric, ionospheric and solar wind conditions was conducted using data from satellite and ground observations.

We show that, perhaps unsurprisingly, most of the 22 reconnection events are usually associated with geomagnetic activity or dynamic solar wind features. However, a few reconnection events occurred under quiet magnetospheric conditions with no signatures of substorms or aurora in the Cluster magnetic field footpoint and with no obvious solar wind trigger detected.