

Abstract Submitted
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Reconnection: where is the party?¹ GIOVANNI LAPENTA, KU Leuven, STEFANO MARKIDIS, KTH, ALEX VAPIREV, KU Leuven, MARTIN GOLDMAN, DAVID NEWMAN, University of Colorado, MMS THEORY MISSION AT UNIVERSITY OF COLORADO TEAM, SWIFF EC-FP7 (SWIFF.EU) COLLABORATION — Kinetic reconnection is often described in the form of two concentric boxes, the inner electron diffusion region and an outer ion diffusion regions. The meaning is the electrons become decoupled in the inner regions and the ions in the outer region. But is it true that all electrons and all ions involved in the process of kinetic reconnection have to go through those two regions? Or the more fluid-like point of view of Petscheck that reconnection might be on a much larger area where most particles do not even have to go through the central part is in some form revitalised in the kinetic picture? We present evidence to the latter: a small fraction of electrons go through their little central box, or even through the extended jets from it more recently discovered. Most cross the separatrices at far more distant regions. There is the party: a localised strong field deflects, energises and randomises the electrons conveying them toward an outflowing plasma region characterised by very different energetics and turbulence.

¹An investigation of the regions where the most important action of reconnection develops.

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