

# Energetic electron acceleration and electron heating by magnetic reconnection

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We statistically study the behavior of energetic electron acceleration region which is near diffusion region of the near earth magnetotail (-10~-30Re) using the Geotail data: MGF, LEP, EPIC (over 38keV electrons flux).

What we found are as follows:

1. Electrons are dominantly heated near plasma sheet boundary layer,
2. The peak of energetic electrons flux can be found at outflow region which are away from an X-type neutral region,
3. Energetic electrons flux intensity is much higher in earth ward flow region than in tail ward flow region,

From these analyses, we argue the acceleration of energetic electrons produced by not only X-point but the entire magnetic reconnection region.