# HYBRID STATE OF THE TAIL MAGNETIC CONFIGURATION DURING STEADY CONVECTION EVENTS.

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Previous observations have shown that during periods of Steady Magnetospheric Convection (SMC) the plasma sheet contains large magnetic flux (corresponding to ~10 deg. wide 'double' auroral oval at the nightside) and that the magnetic configuration in the mid-tail is relaxed (the current sheet is thick and contains enhanced Bz), as typical for the substorm recovery phase. Using GOES and CCE data, magnetic field modelling and a novel diagnostic technique (Isotropic Boundary Algorithm) we show that in the near-Earth tail, on the contrary, the magnetic configuration is very stretched during the SMC events, due to an intense thin azimuthal current, and, because of a strongly depressed Bz a large radial gradient of B (the so-called 'wall' region) is building up. These signatures have been previously associated only with the substorm growth phase. Our results indicate that during the SMC periods it is quite possible to have a very peculiar magnetic configuration with co-existing thin near-Earth current sheet and thick mid-tail plasma sheet. The deep local minimum of the equatorial Bz that develops at r ~ 12 Re is required for the steady adiabatic (Earthward) convection in the midtail. The results, however, impose constraints on the existing substorm theories and require an explanation, why such a stressed configuration may persist for such a long time, without a disruption of the tail current, as it happens at the end of substorm growth phase.