

# Issues of Perpendicular Conductivity and Electric Fields in Fusion Devices

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At present it is well understood that the key element in the transition physics is the origin of the strong radial electric field and suppression of the turbulence fluctuation level by a strong poloidal rotation in the ExB fields. As a result, the transport coefficients are strongly reduced at fixed places and transport barriers with steep density and temperature gradients are formed near the separatrix or last closed flux surface (ETB) or in the core region (ITB). The key element in the transition physics is the origin of the strong radial electric field. The issue depends crucially on the perpendicular conductivity. The impact of the momentum transport is brought to light.

Also, issues and advantages important for the future of stellarators in competition with tokamaks are brought up.