ABSTRACT

High spatially resolved measurements of the radial electric field, E_r, have been made across the transition from L–mode to H–mode plasmas for many different plasma parameters and conditions. The evolution of the well-like structure of the E_r profile formed at the L–H transition was investigated. No distinct variation in the shape or width of the E_r well at the L–H transition is observed as a function of the plasma parameters investigated. The value of E_r is negative just inside the last closed flux surface for all the plasmas studied. There is a variation in the depth of the E_r well for different conditions. The experiment results were compared to theoretical predictions for suppression of plasma turbulence by sheared E×B plasma flow.