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Recent Progress on Laser Electron Acceleration Studies

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The TM (Transverse Magnetic) and TE (Transverse Electric) surface waves in plasmas with axially non-uniform density profiles have been studied. The wave equations are derived from Maxwell's equations for electromagnetic wave fields $\boldsymbol{E}$ and $\boldsymbol{B}$ and induced current density $\boldsymbol{J}$. The wave equations are assumed to have separable form in axial (z) and radial (r, θ) components. The figures show the profiles of the radial function $\phi(r, \theta)$ for $(m, n) = (1, 4)$ and $(8, 1)$. (Hitoshi HOJO *et al.*, Plasma and Fusion Research Vol.5, 006 (2010) http://www.jspf.or.jp/PFR/)

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