

The fundamental question of how and where does an asymmetric mixed convection boundary layer flow around a heated horizontal circular cylinder begin to develop is raised. We first transform the classical boundary layer equations by using an integral method of Karman–Pohlhausen type and obtain two coupled equations governing the evolutions of the dynamic and thermal boundary layers. Because of its global character, the implemented method allows to bypass the difficulty of downstream–upstream interactions. Cauchy conditions characterizing the starting of the boundary layers are found; they are obtained in a surprisingly simple manner for the limiting cases corresponding to $Pr = 1$, $Pr \rightarrow 0$ and $Pr \rightarrow \infty$. Otherwise, these conditions can be found by using a prediction correction algorithm. Some numerical experiments are finally performed in order to illustrate the theory