1063-76-250 **James P Kelliher\*** (`kelliher@math.ucr.edu`), University of California Riverside, 900 University Ave., Surge 202, Riverside, CA 92521, and **Roger M Temam** and **Xiaoming Wang**. *Boundary layer associated with the Darcy-Brinkman-Boussinesq model for convection in porous media.*

We study the asymptotic behavior of the infinite Darcy-Prandtl number Darcy-Brinkman-Boussinesq system for convection in porous media at small Brinkman-Darcy number. The existence of a boundary layer with thickness proportional to the square root of the Brinkman-Darcy number for the velocity field is established in both the $L^\infty(H^1)$ norm (2 and 3 d) and the $L^\infty(L^\infty)$ norm (2d only). This improves an earlier result of Payne and Straughan (1998) where the vanishing Brinkman-Darcy number limit is studied without resolving the boundary layer. (Received August 17, 2010)