1056-35-842   **Chang-Yeol Jung*** (`changyeoljung@gmail.com`), Ulsan, South Korea, and **Roger Temam** and **Makram Hamouda**. *Asymptotic analysis for the 3D primitive equations in a channel.*

In this article, we give an asymptotic expansion, with respect to the viscosity which is considered here to be small, of the solution of the 3D linearized Primitive Equations (EPs) in a channel with lateral periodicity. A rigorous convergence result, in some physically relevant space, is proven. This allows, among other consequences, to confirm the natural choice of the non-local boundary conditions for the non-viscous PEs. (Received September 17, 2009)