1015-35-178 **Daniel T. Onofrei***, 67 Wachusett St, Worcester, MA 01609. *On a boundary layer result for the classical problem of homogenization and applications.* Preliminary report.

We will discuss about a boundary layer corrector result for the classical problem of homogenization in the most general case of L^∞ coefficients. Using the Periodic Unfolding method proposed by Cioranescu, Damlamian and Grisso, we are able to generalize the boundary layer corrector result obtained by Vogelius and Moskow. As applications we will present a convergence result in the case of L^∞ coefficients for the Multiscale finite element method proposed by Hou and Wu, and discuss about possible ways to extend the eigenvalue corrector results obtained by Vogelius and Moskow. (Received February 04, 2006)