

Evgeni Syrakov, Yordanka Mihaylova. SOME ASPECTS OF INFLUENCE OF STRATIFICATION AND INVERSIONS ON THE DIFFUSION FROM INSTANTANEOUS POINT SOURCE IN PBL

In this work was researched the diffusion from instantaneous point source in convective and stable conditions in Planetary Boundary Layer (PBL), and in the presence of inversions too. The problem was split up into two relative simple—for horizontal and vertical diffusion. Are parameterized by outer parameters (the resistance laws in PBL) or by Pasquill-Turner stability categories. Are studied some aspects for description of horizontal diffusion by statistical moments and was analysed the influence of stratification, roughness and inversions on the fields of concentration, centroid, dispersions, skewness, kurtosis. Are estimated times for relaxation for establishment of various asymptotical regimens in strong stability and instability in PBL.

Keywords: diffusion, point source, PBL, parameterization, centroid, dispersions

PACS numbers: