

Figure 10. Time-depth contour plots of the time rate of change of density and the components of the vertical diffusion term in the top 14.5 m of the water column for the $N_o/100$ surface boundary layer simulations.

temporal oscillation in the turbulent mixing coefficients at the boundary layer base as the system alternately overmixes and restratifies there. The fact that the surface boundary layer formulation is matched smoothly with the interior

estimate of mixing and that it too depends on a Richardson number based formulation for boundary layer depth exacerbates the problem by extending the oscillations in mixing coefficient throughout the boundary layer. These oscillations

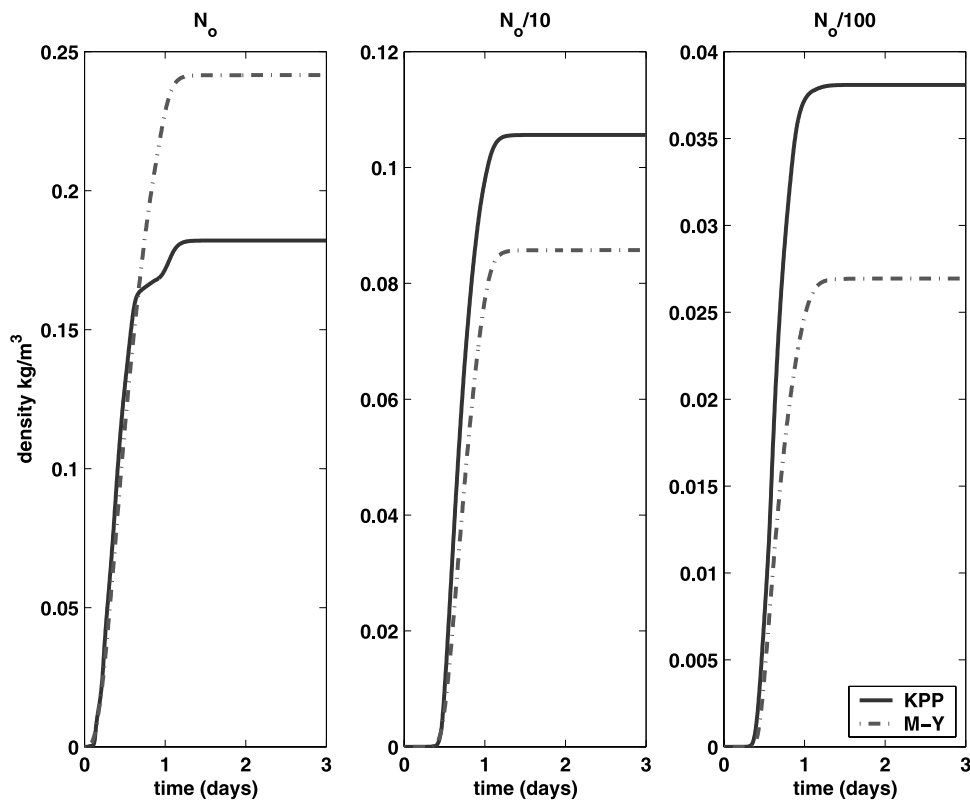


Figure 11. Time series of change in surface density with three different initial stratifications for simulations with the two mixing schemes for simulations with a “pulsed” wind forcing.