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Turbulent energies in the CBR scheme in a stable case preliminary findings

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  - 

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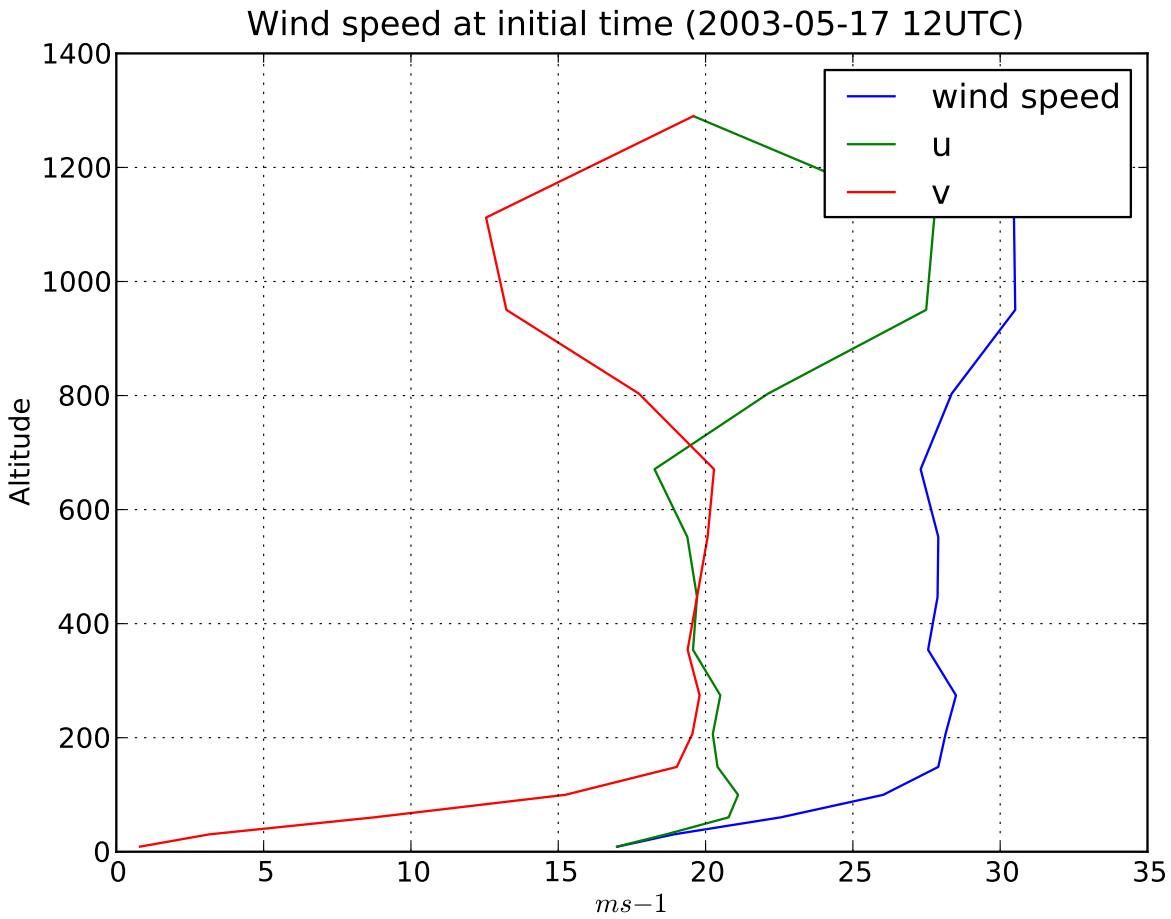
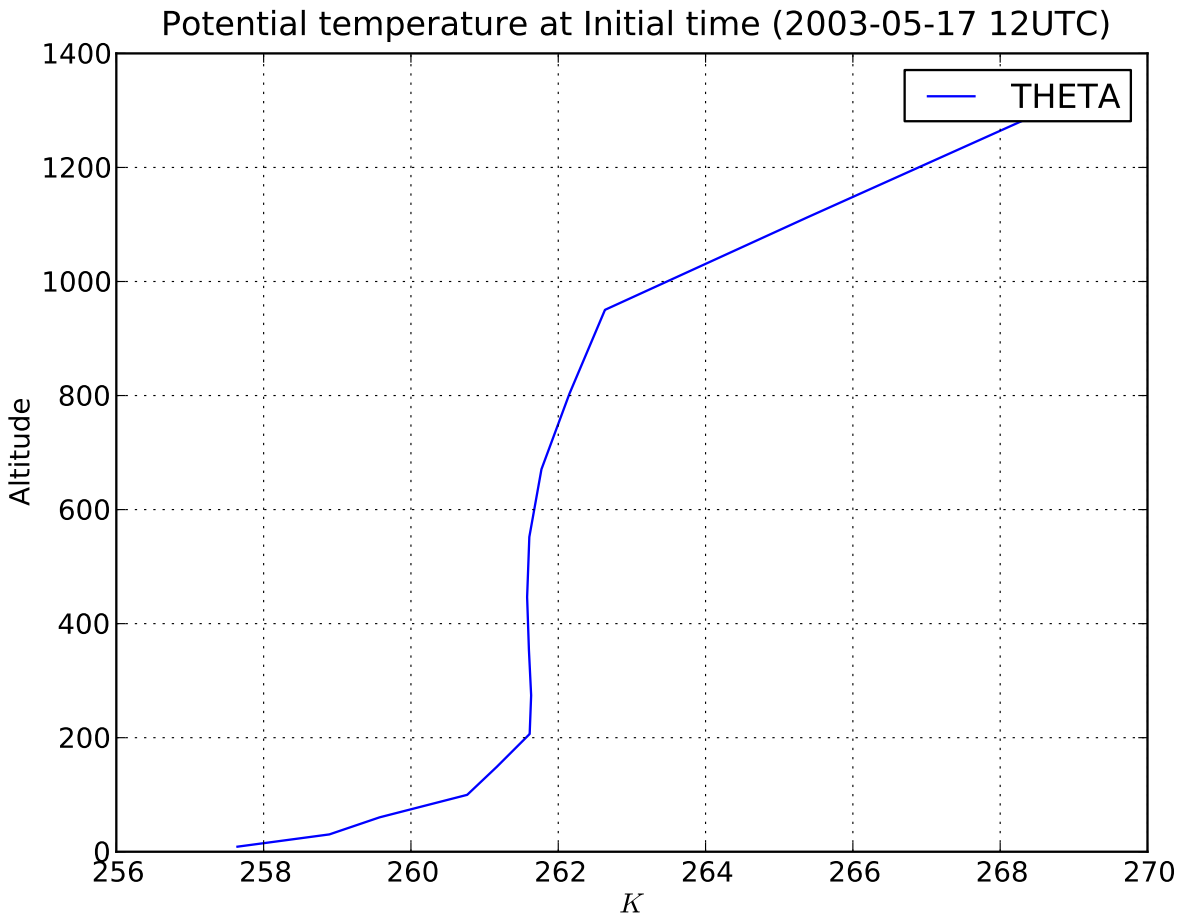
Halley 17th May 2003 12UTC



Halley 17th May 2003 12UTC

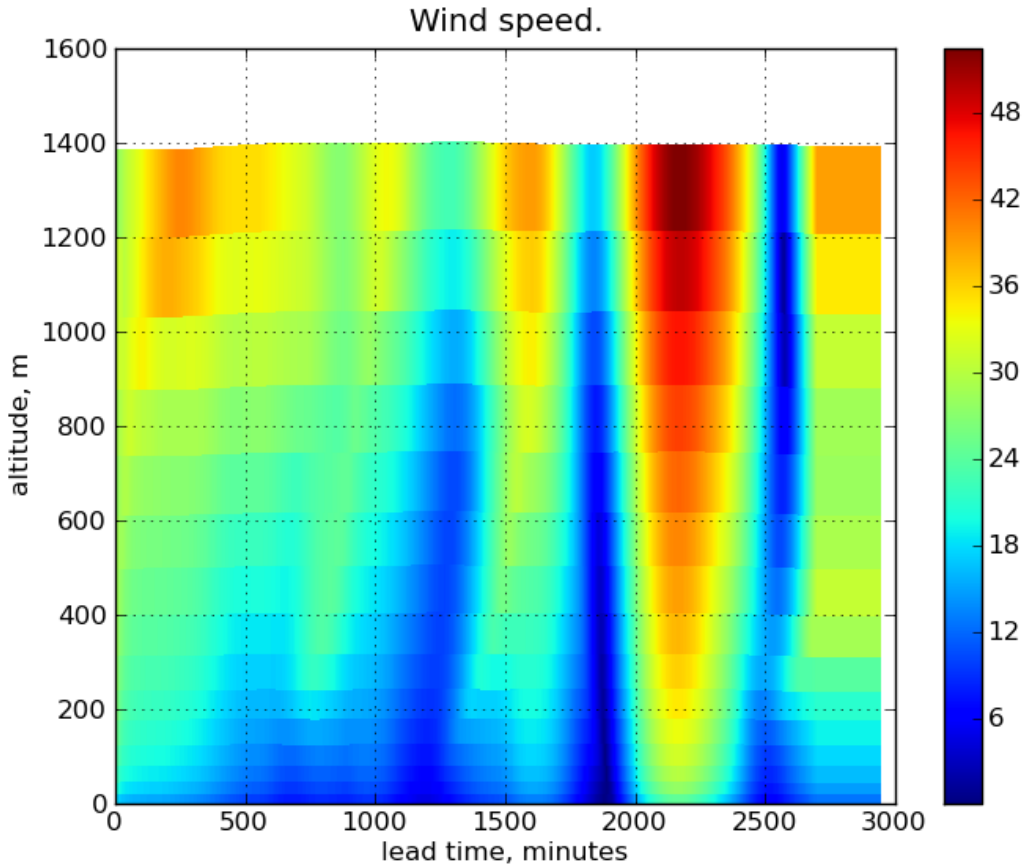


Siumlation with MUSC cy37h1

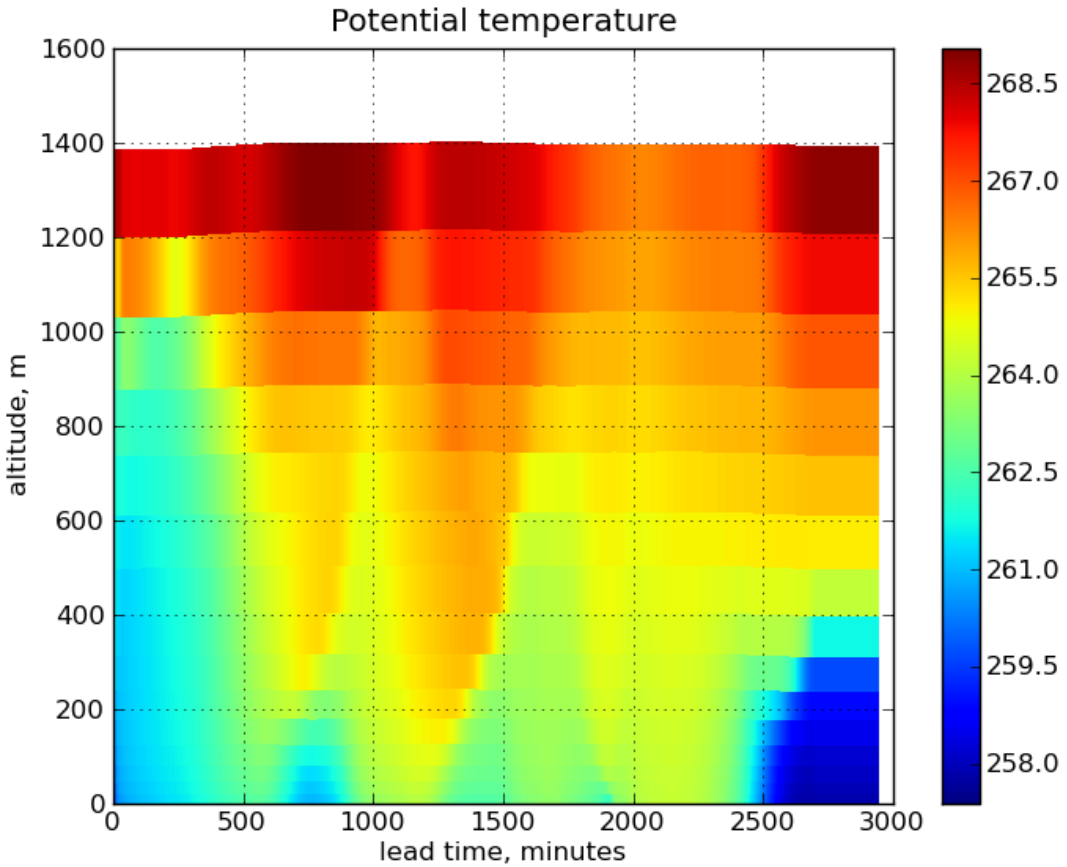
single column model, 91 levels with lowest at about 10 m

48 hours simulation, 60 s time step

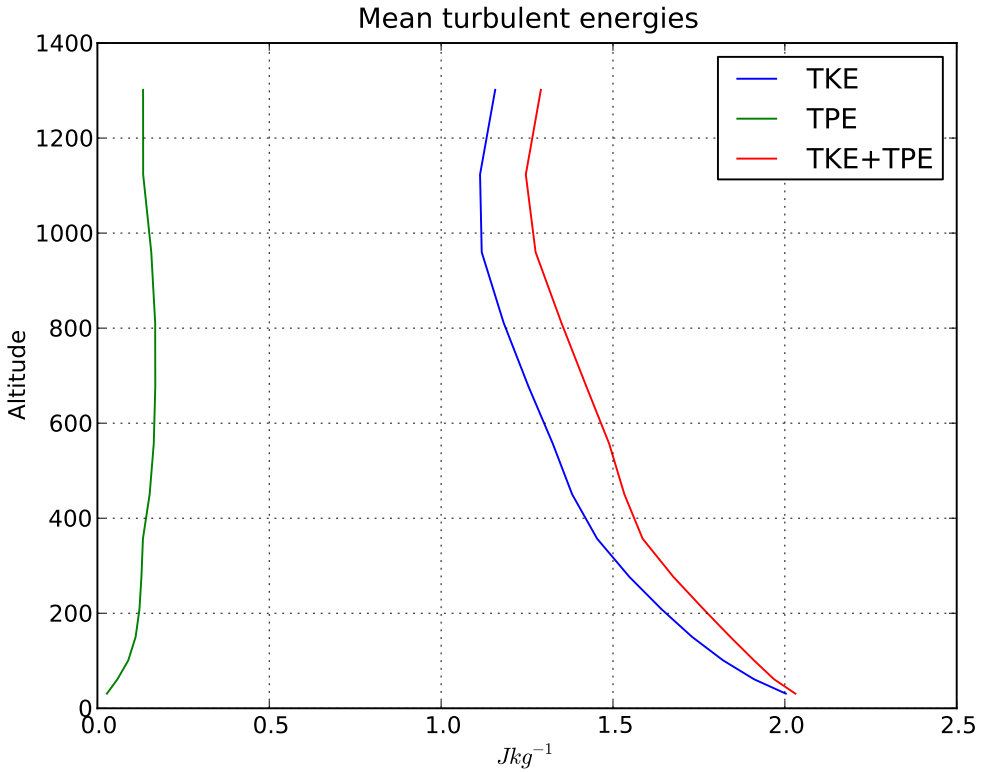
External forcing: time varying geostrophic wind and temperature advection obtained from a 3D model (WRF). Courtecy of Tiina Kilpeläinen and the Numlab2013 course at the Univ. Helsinki.



Strong inertial oscillations develop

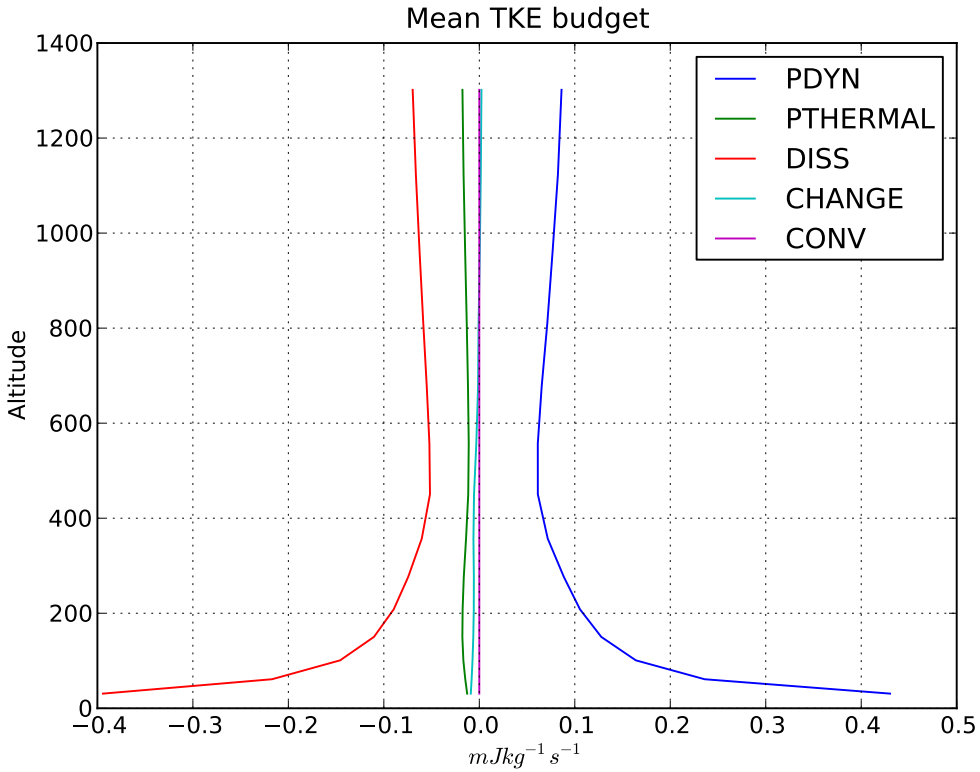


I.Os are influencing also the thermal structure



$$\frac{\partial TKE}{\partial t} = CONV + PDYN + PTHERM + DISS$$

$$TPE = 0.5\frac{\beta}{\frac{\partial \Theta}{\partial z}}\overline{\theta'^2}, \qquad \overline{\theta'^2} \propto L^2(\frac{\partial \Theta}{\partial x_m}\frac{\partial \Theta}{\partial x_m})\phi_m$$



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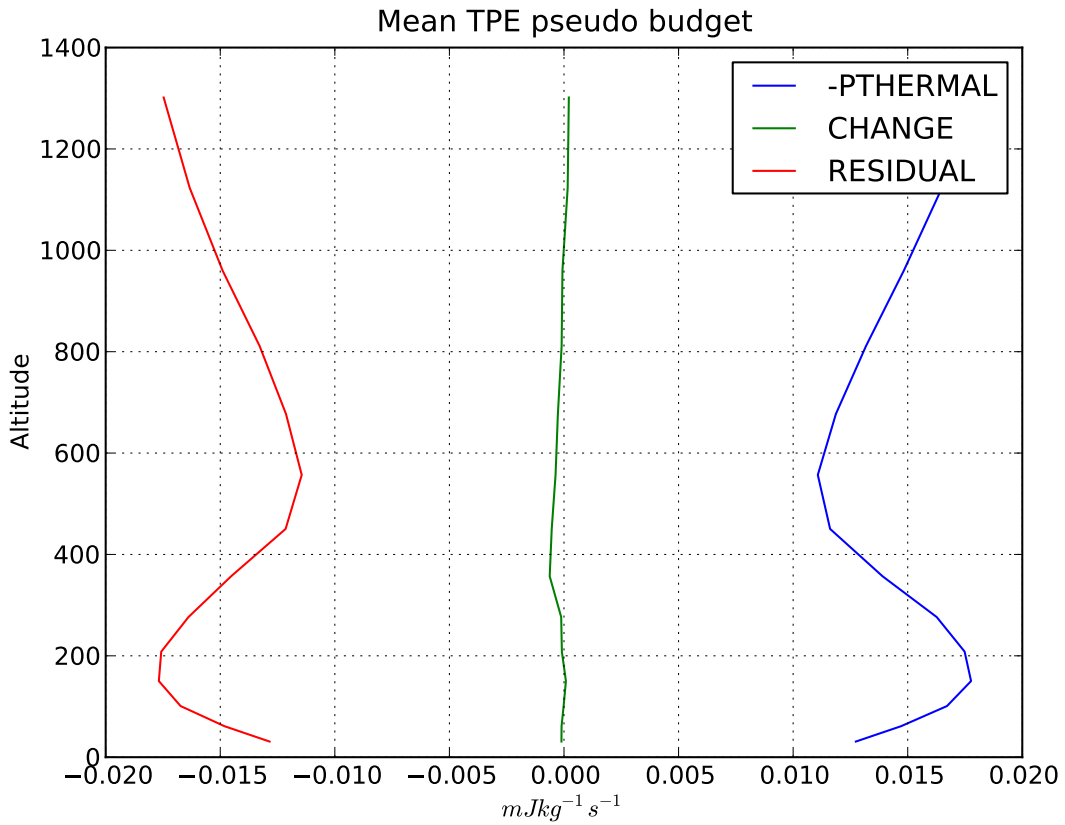

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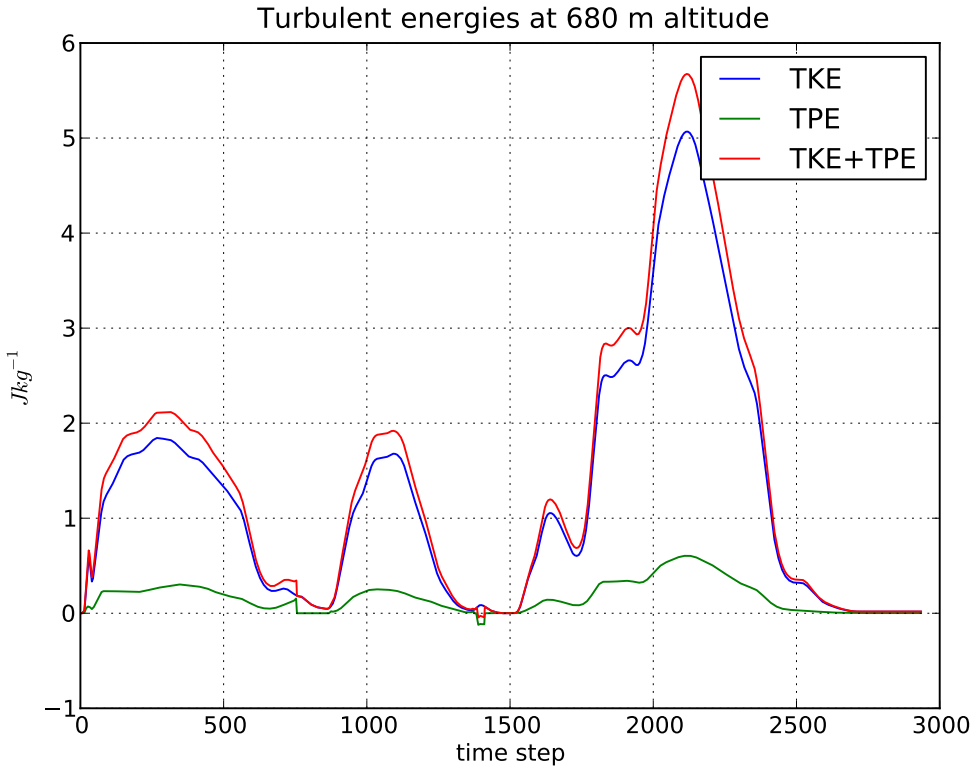

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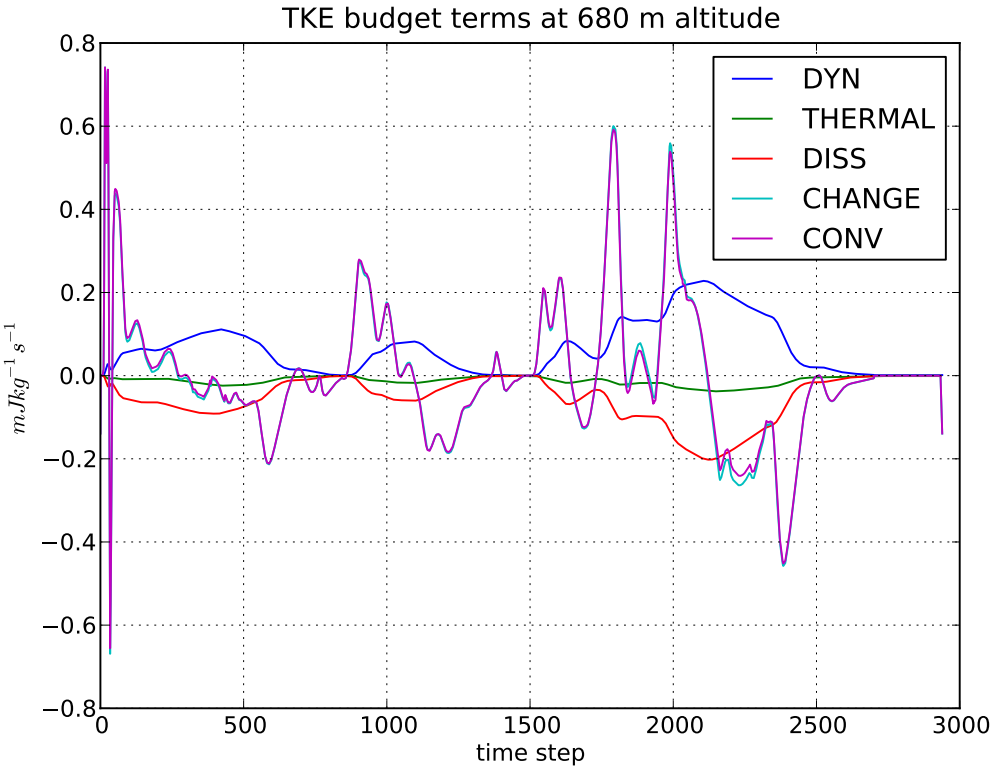

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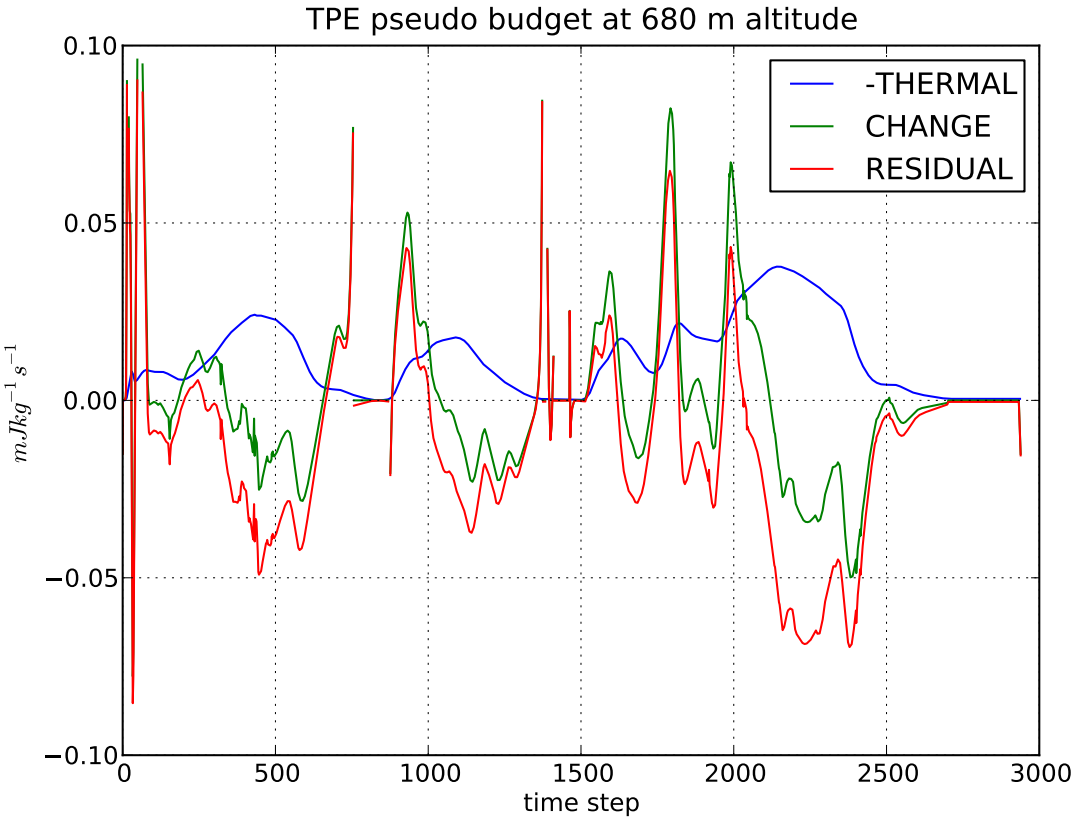

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Next: comparison with existing LES results

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