

SON (81–10)

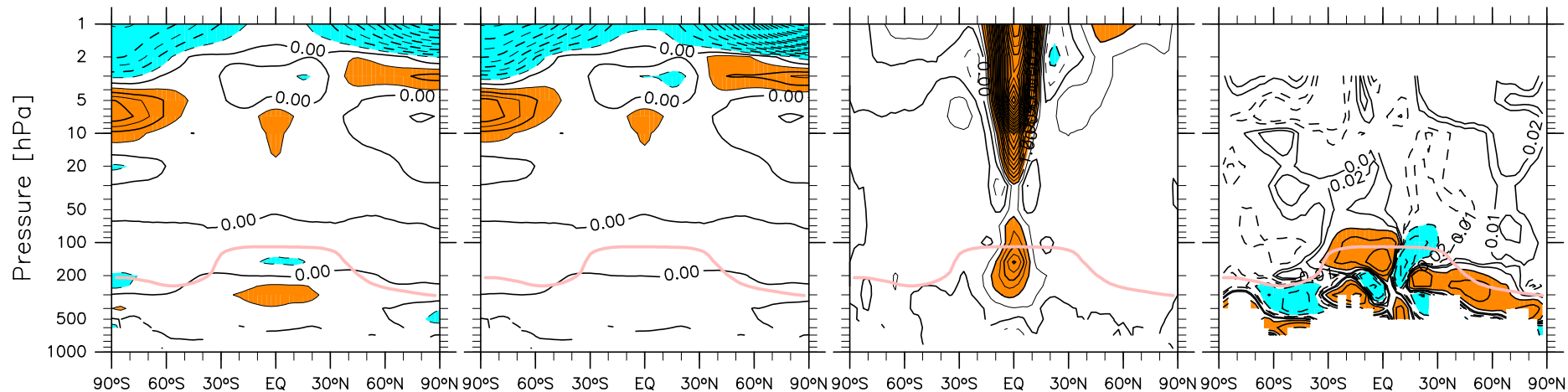
MERRA-2 — REM

(a)  $T$  [K]

(b)  $\Theta$  [K]

(c)  $u$  [m/s]

(d)  $v_{res}$  [m/s]

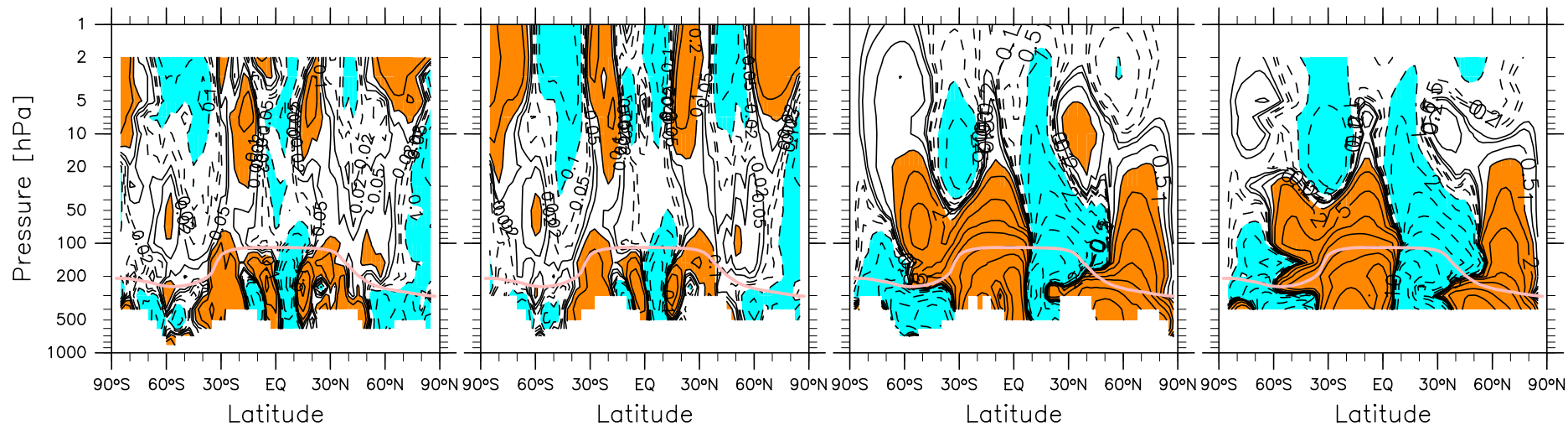


(e)  $w_{res}$  [mm/s]

(f)  $w_{res}$  from  $\Psi_{vres}$  [mm/s]

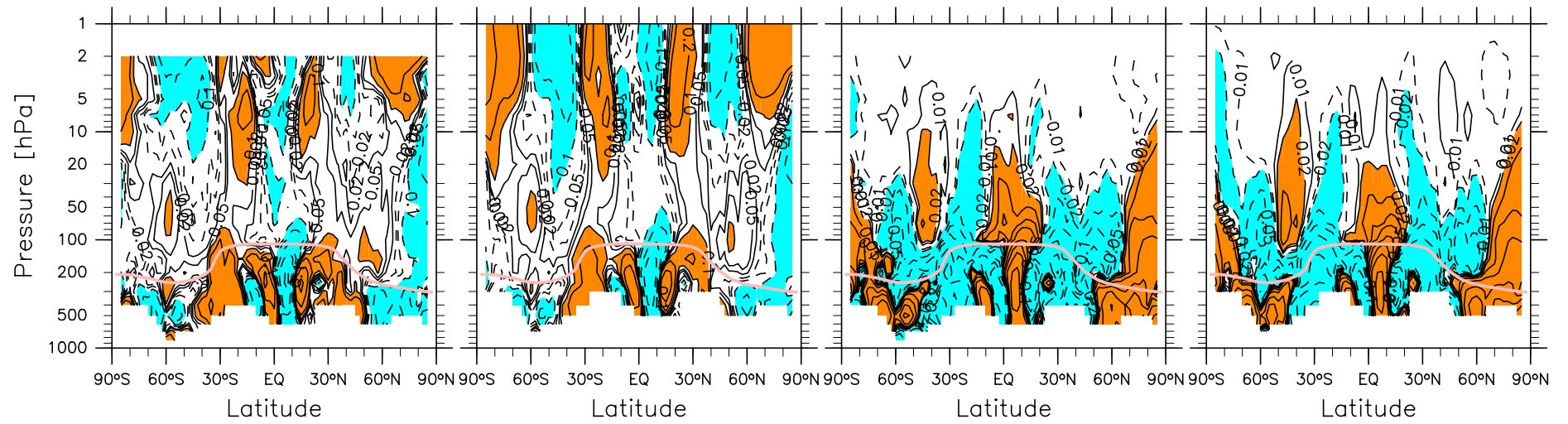
(g)  $\Psi_{vres}$  [kg/m/s]

(h)  $\Psi_{wres}$  [kg/m/s]



(a)  $w_{\text{res}}$  [mm/s]

(d)  $\omega_{\text{res}}$  from  $\psi_{\text{vres}}$  [mPa/s]



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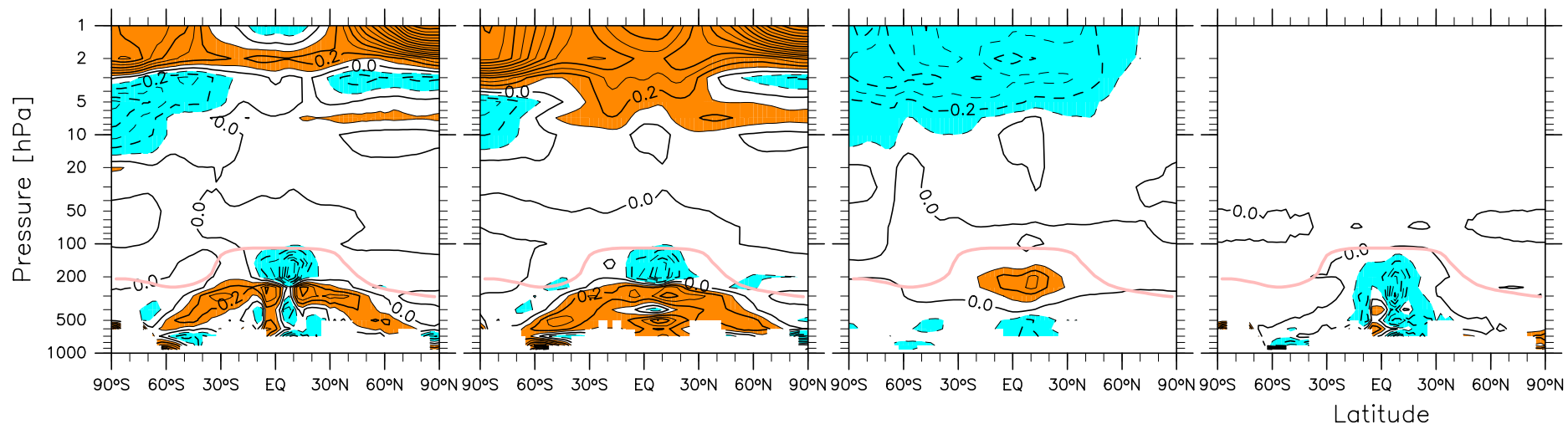
MERRA-2 — REM

(a)  $Q_{\text{total}}$  [K/d]

(b)  $Q_{\text{longwave}}$  [K/d]

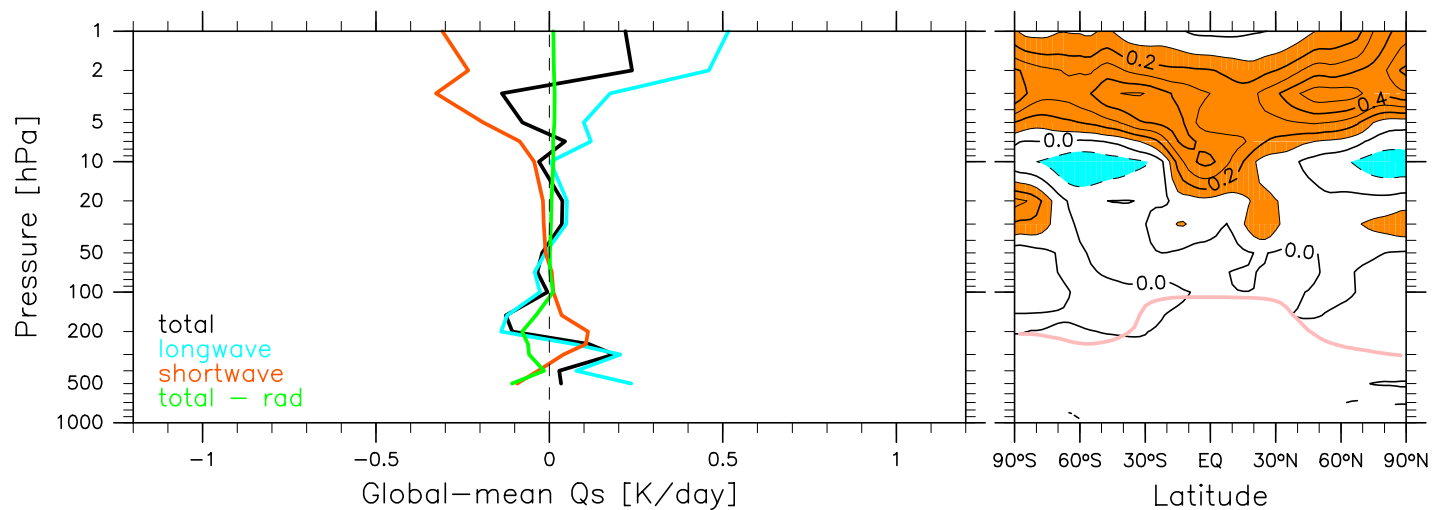
(c)  $Q_{\text{shortwave}}$  [K/d]

(d)  $Q_{\text{total}} - Q_{\text{rad}}$  [K/d]



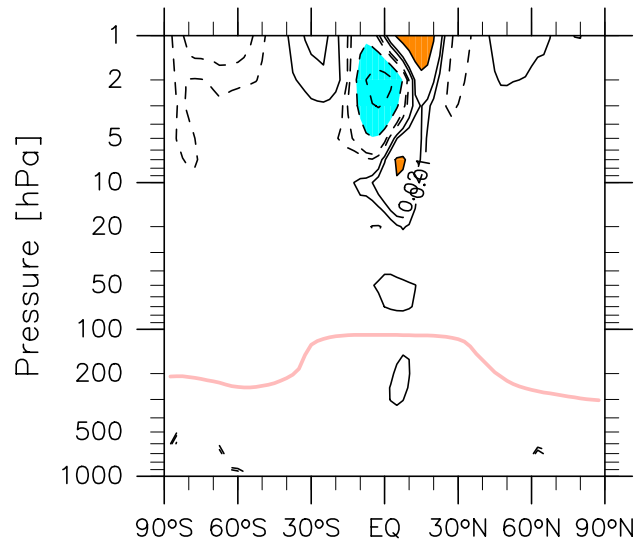
(e) Global-mean  $Q_s$  [K/d]

(f) Ozone [ppmv]

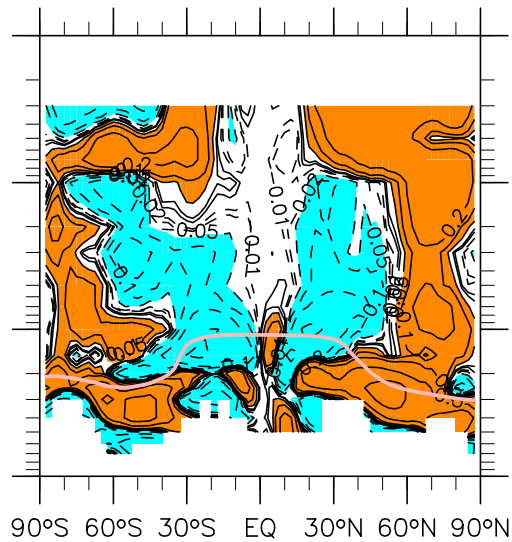


SON (81–10)

(a)  $\partial u / \partial t$

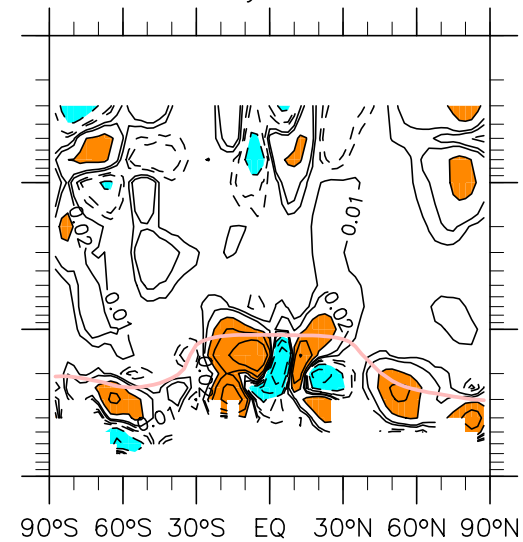


(b)  $+fv^*$

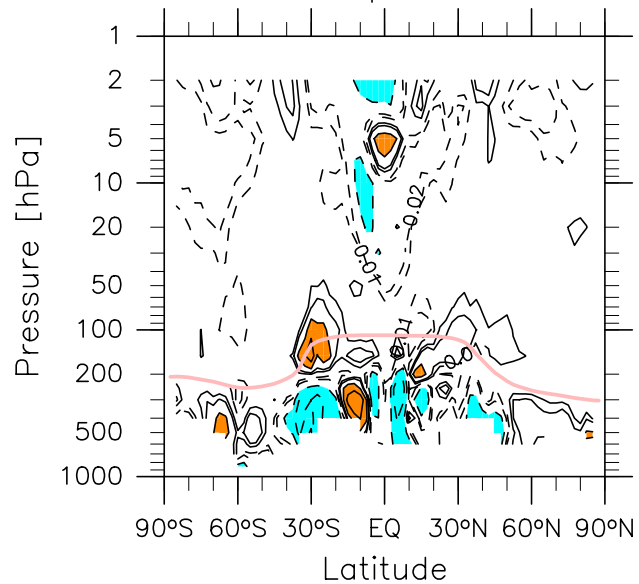


MERRA-2 — REM

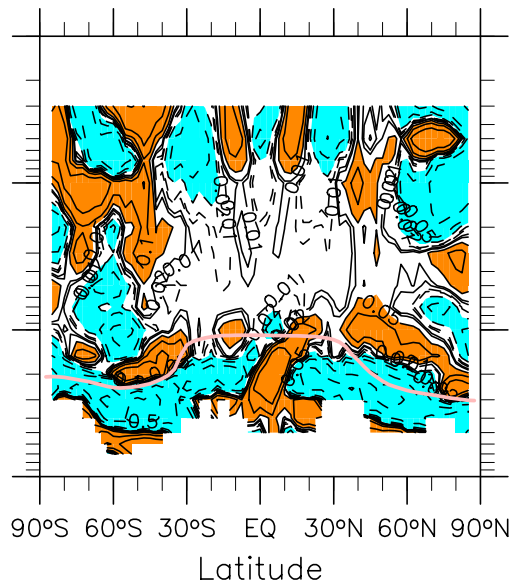
(c)  $-v^* \partial u / \partial y$



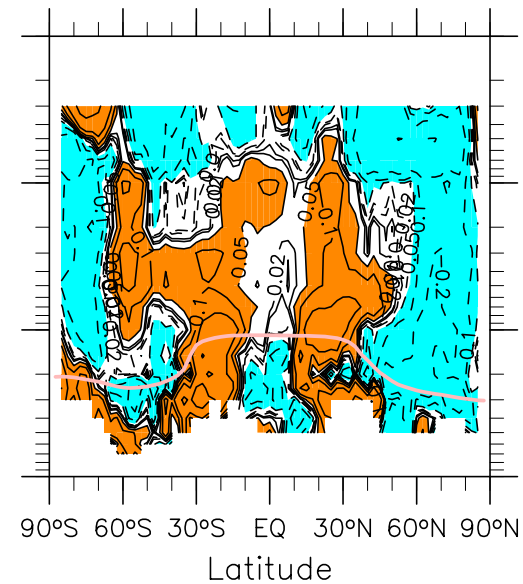
(d)  $-\omega^* \partial u / \partial p$



(e) EPFD

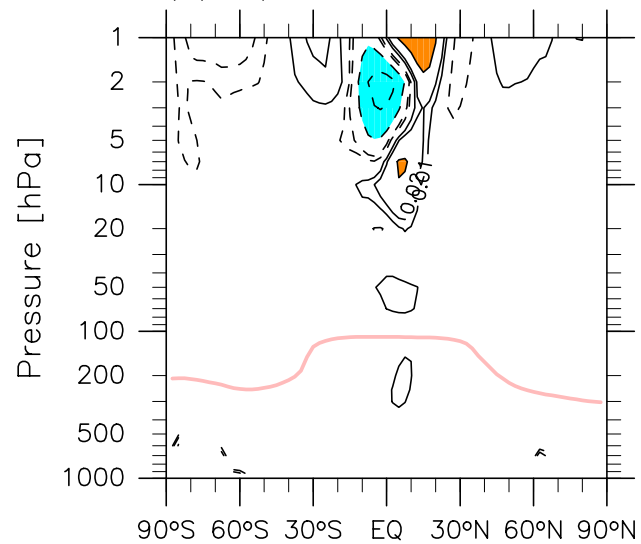


(f) Residual\_u



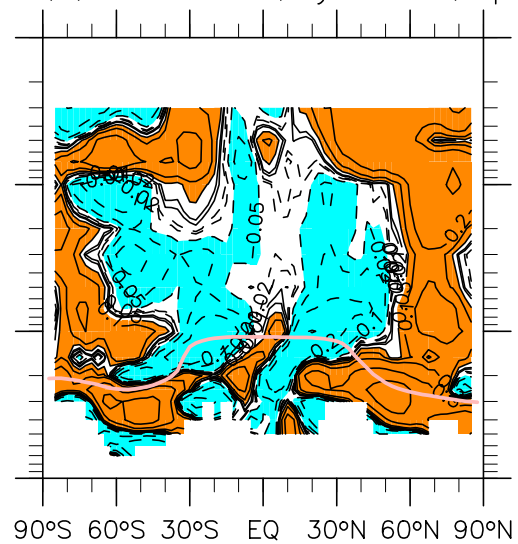
SON (81–10)

(a)  $\partial u / \partial t$

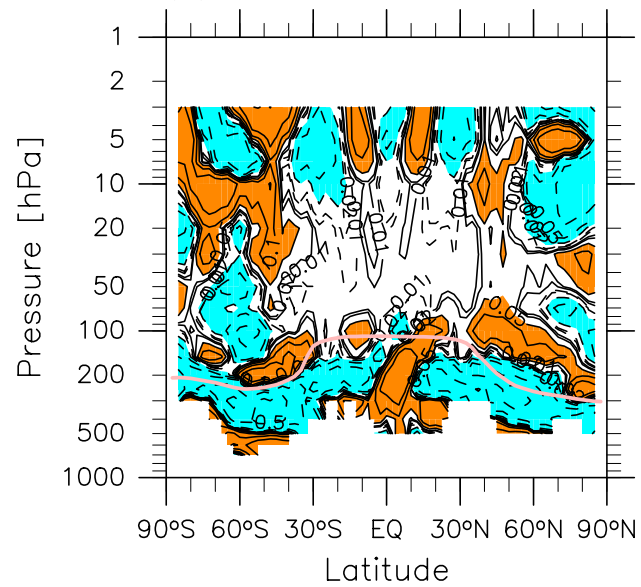


MERRA-2 — REM

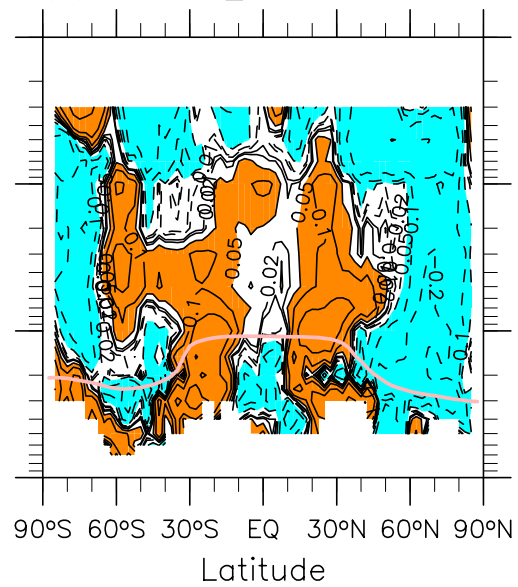
(b)  $+fv^* - v^* \partial u / \partial y - \omega^* \partial u / \partial p$



(c) EPFD

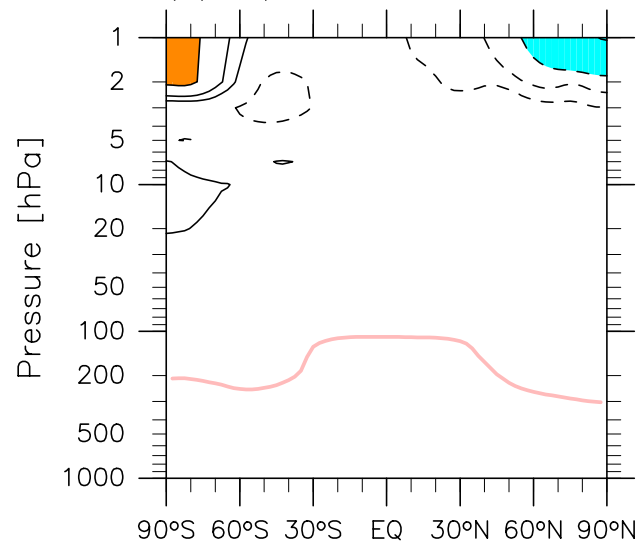


(d) Residual\_u

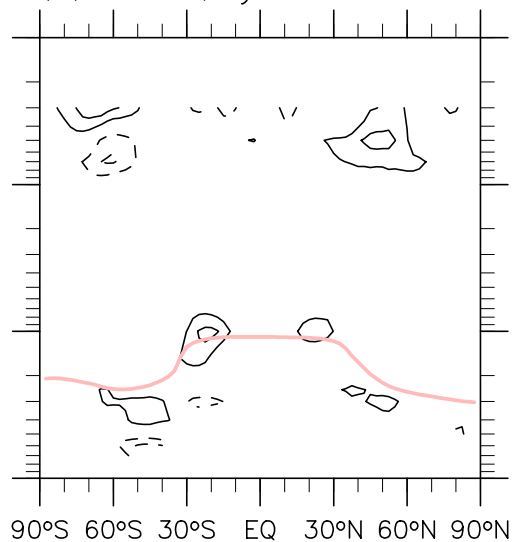


SON (81–10)

(a)  $\partial\theta/\partial t$

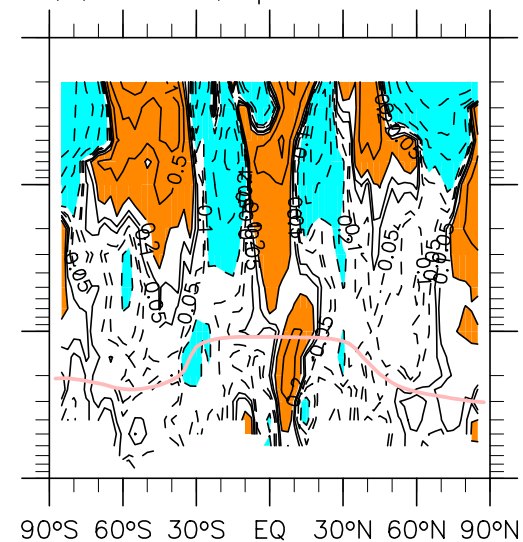


(b)  $-v^* \partial\theta/\partial y$

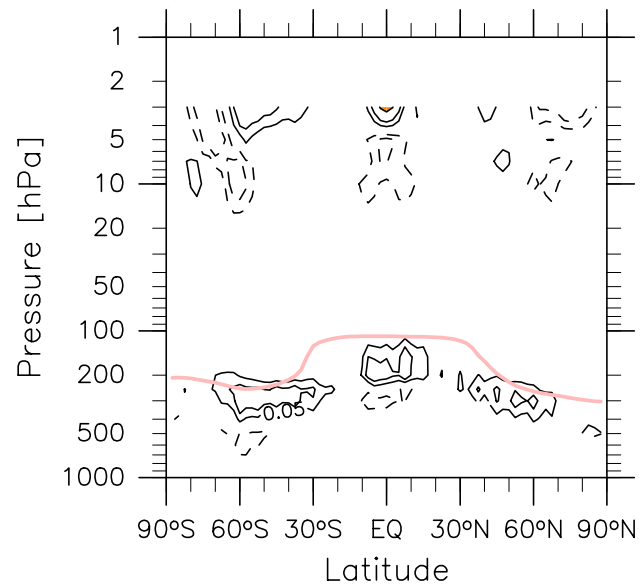


MERRA-2 — REM

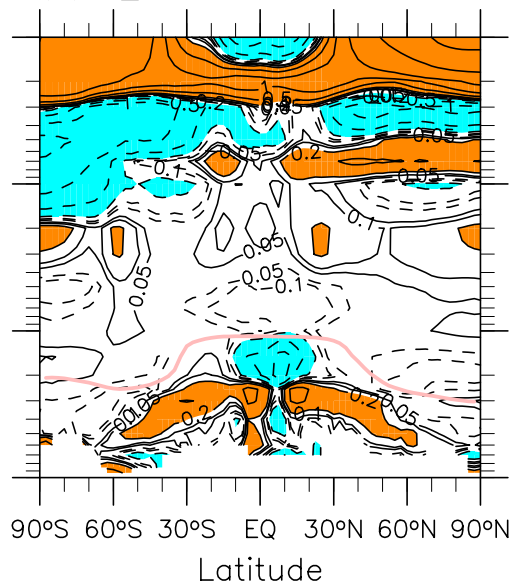
(c)  $-\omega^* \partial\theta/\partial p$



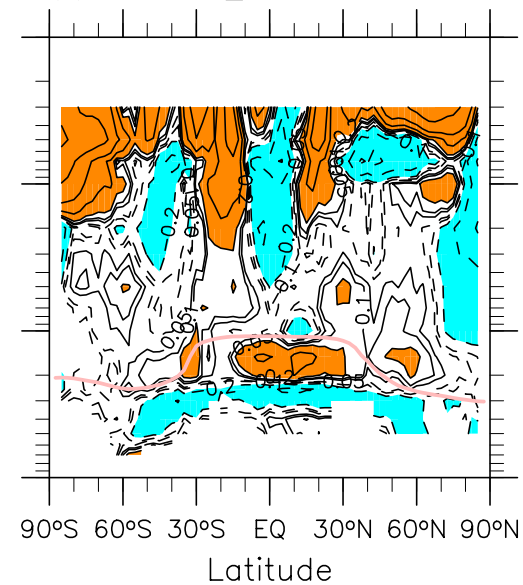
(d) TEM—thermo flux term



(e)  $Q_{total}$



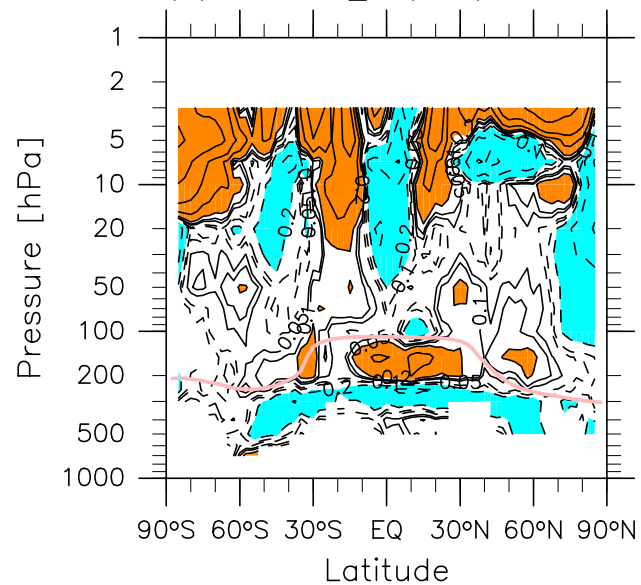
(f) Residual\_θ



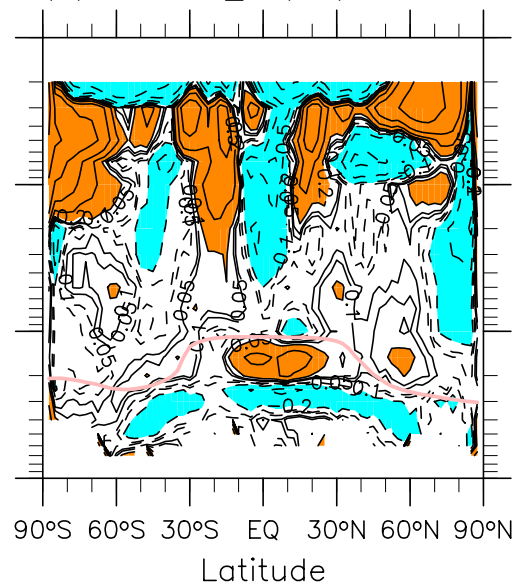


SON (81–10)

(a) Residual\_ $\Theta$  (TEM)



(b) Residual\_ $\Theta$  (EM)



MERRA-2 — REM

(c) difference (TEM minus EM)

