(a) Default EAMv1 (simulation v1_CTRL)

Dynamics

Δt_{adv} = 5 min

Δt_{remap} = 15 min

Physics

Δt_{deepCu} = 30 min

$\Delta t_{CPLmain}$ = 30 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

Δt_{macmic} = 5 min

$\Delta t_{CPLmain}$ = 30 min

Misc. processes and Δt

$\Delta t_{CPLmain}$ = 30 min

Δt_{rad} = 60 min

(b) Simulation v1_All_Shorter

Dynamics

Δt_{adv} = 5/6 min

Δt_{remap} = 15/6 min

Physics

Δt_{deepCu} = 30/6 min

$\Delta t_{CPLmain}$ = 30/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

Δt_{macmic} = 5/6 min

$\Delta t_{CPLmain}$ = 30/6 min

Misc. processes and Δt. Constant Δt values reduced to 1/6

$\Delta t_{CPLmain}$ = 30/6 min

Δt_{rad} = 60/6 min

Legend for the physics part:

Δt = x min — Tendency calculation with step size Δt

Δt = x min — State update with step size Δt

Legend for the dynamics part:

Δt = x min — Tendency calculation *and* state update with step size Δt