

1. False. Using a smaller Δt can reduce the numerical errors, ~~in~~ meanwhile it leads to a increasing of simulation time, which will increase the rounding errors. Thus, we should choose proper Δt .

2. ~~Adaptive~~ Adaptive numerical method is the method which time step Δt is computed and updated in every time step.

Non-Adaptive method: time step will not change.

Adaptive numerical are useful when solving non-uniform dynamics system problem.

Disadvantages: Since time step is changing ~~in~~. We cannot preallocate the size because we do not know simulation time in each time step. this may decrease the efficiency of simulation.