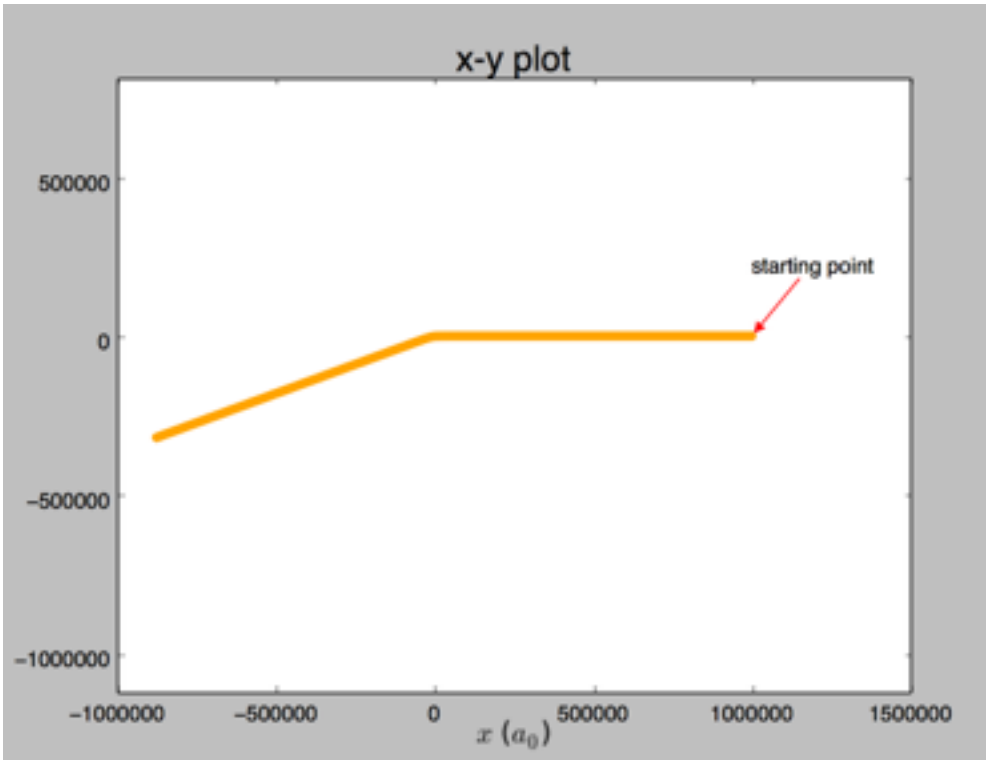
HW3
Radiative Processes Samantha Chang-Chun Chen Oct/26/2016

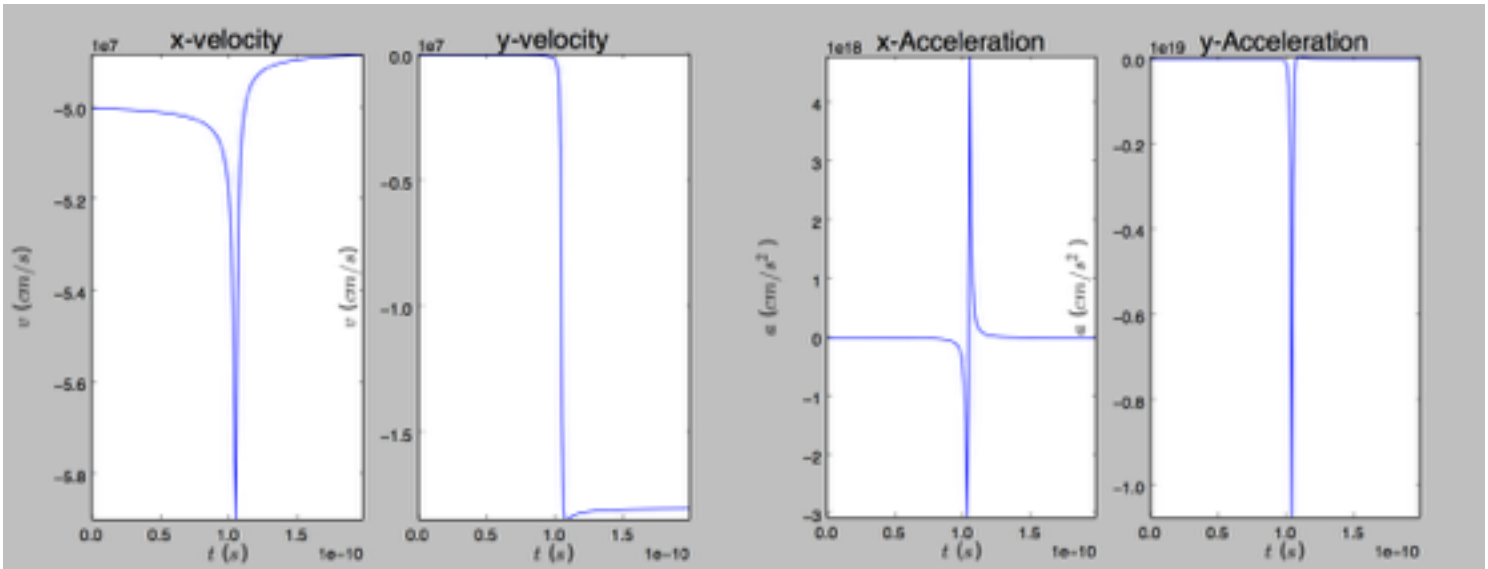
1.
Input parameter:

Z=100
Initial position (x0 = 1E6 ,y0 = 1E4)
v0 = -5E7〔cm/s〕
niter = 200 (# of steps)
dt = 1E-12〔s〕 (time interval of a step)

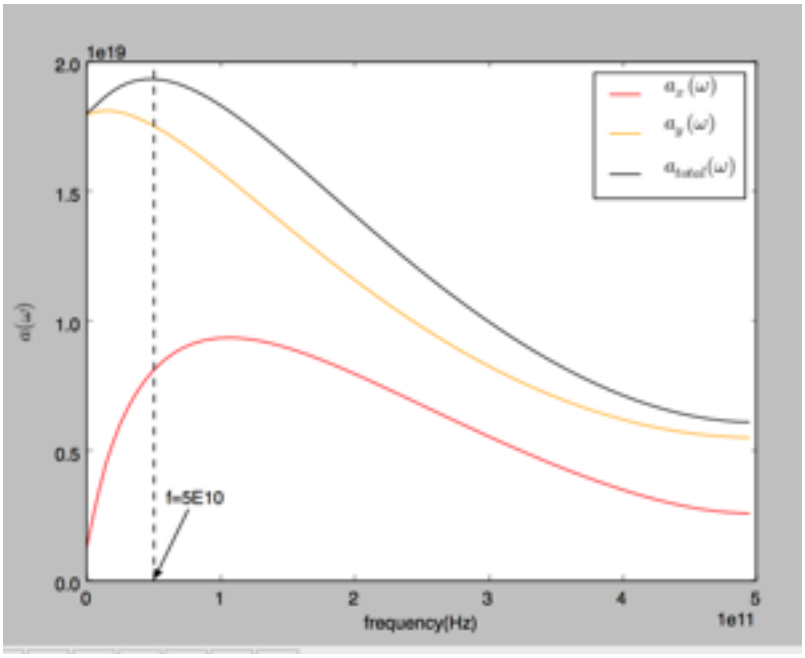
Assumption:
1. the initial kinetic energy is 20 times of the potential energy at the closest point (0,y0).



2. V-t plots and A-t plots:



3. $a_{total}^2(\omega) = a_x^2(\omega) + a_y^2(\omega)$



4.
The peak frequency is 5E11. From this diagram, the peak frequency is independent of initial position and initial velocity.