**Charge in E and B simulation**

**TOTAL EXTRA 10 points**

TASK 1 (4 points)

Correct Lorentz\_F: 2 points

Correct update\_v: 1 points

Correct update\_position: 1 points

TASK 2 (4 points)

Comment - expecting a parabola (ore describe a curve): 1 point

Included 2 different configurations with uniform E: 1 point

Included 2 different configurations with uniform B: 1 point

2c) move with constant velocity: 1 point

TASK 3 (2 points)

* If you want the charged particle to pass through the accelerating middle region as many times as possible, would you increase or decrease the magnitude of B? Explain your logic and verify using the simulation. 1 point (Increase B, discuss force)
* As the particle gains more speed each cycle, does the period/frequency of one cycle change from one cycle to another? Explain your logic. (Stays the same, show equation or discuss scaling) 1 point