USPAS Graduate Accelerator Physics Final

Due date: Friday February 19, 2021 11:00 AM EST

1 Dynamics

Solve **one** of the following list of dynamics problems from the textbook. Include illustrative parameters and graphics from the associated online HTML5 simulation.

a) Exercise 1.1: The Logistic Map
   see https://www.toddsatogata.net/2021-USPAS/Logistic.html

b) Exercise 4.6: The Standard Map and Chaos
   see https://www.toddsatogata.net/2021-USPAS/Standard.html

c) Exercise 9.6: FODO Cell Dynamic Aperture
   see https://www.toddsatogata.net/2021-USPAS/Henon.html

d) Exercise 12.5: Henon Map with Damping and Excitation
   see https://www.toddsatogata.net/2021-USPAS/Henon.html

2 Calculation/Theory

Solve **one** of the following list of calculation/theory problems from the textbook.

a) Exercise 3.5: Beta in a Drift

b) Exercise 5.9: Multiple Coulomb Scattering

c) Exercise 8.5: β Three Bump