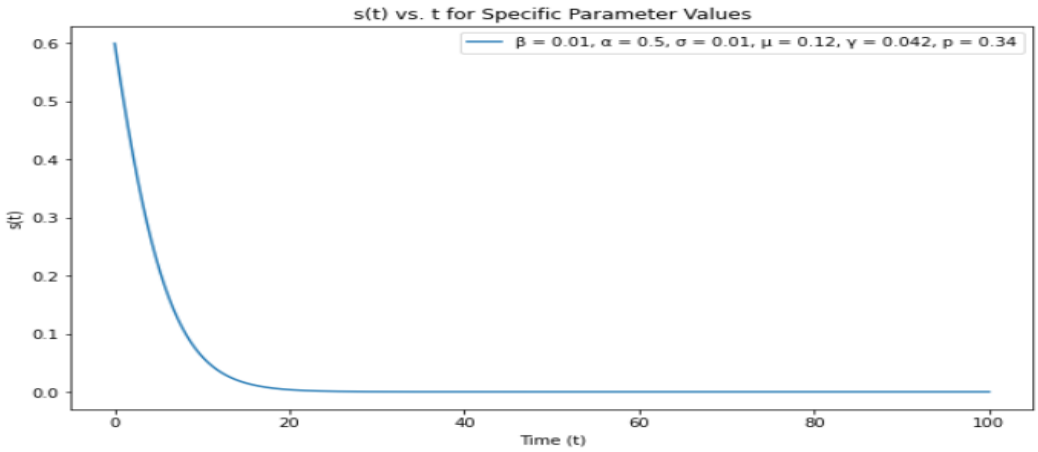
☐ Parameter Values:

- beta = 0.01
- alpha = 0.5
- sigma = 0.01
- mu = 0.12
- gamma = 0.042
- p = 0.34

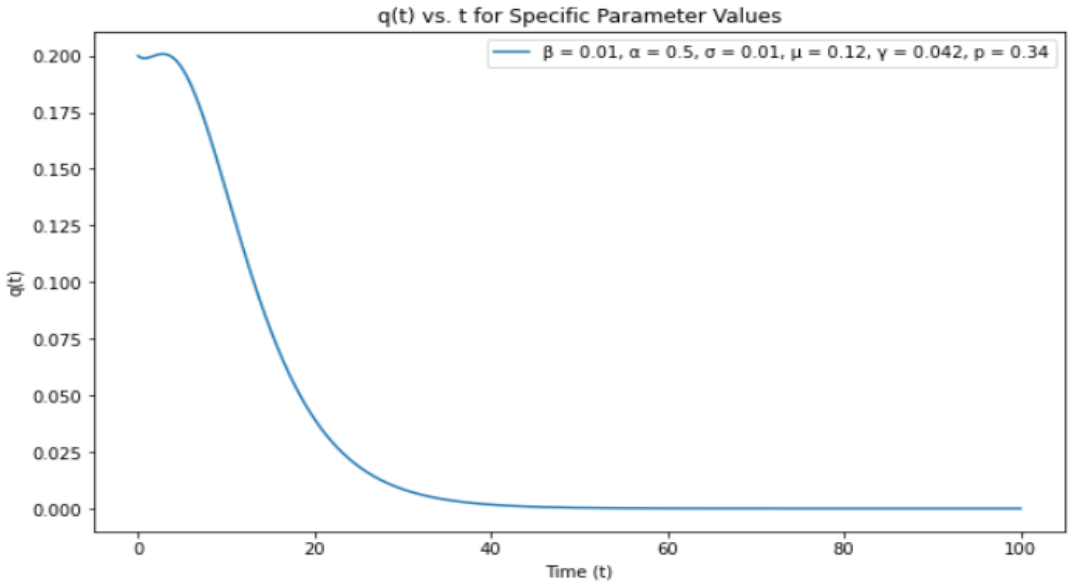
☐ Initial State Vector: [s, q, a] = [0.6, 0.2, 0.1] .

☐ Equilibrium Vector: [0.0, 0.0, p] = [0.0, 0.0, 0.34] .

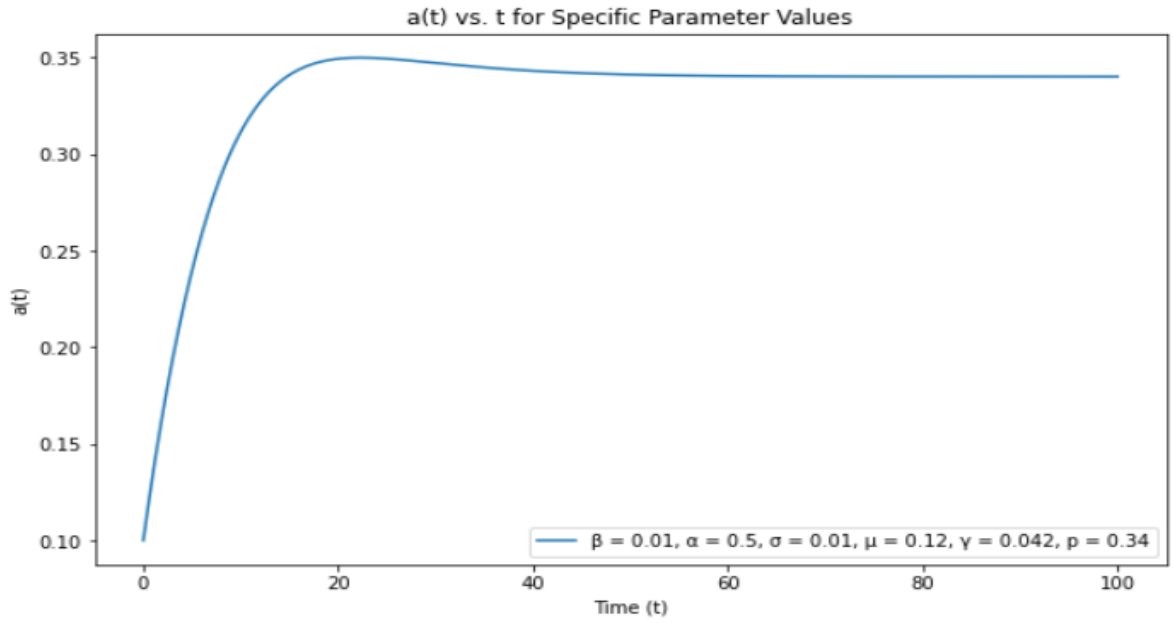
1. Plot of s(t) vs t:



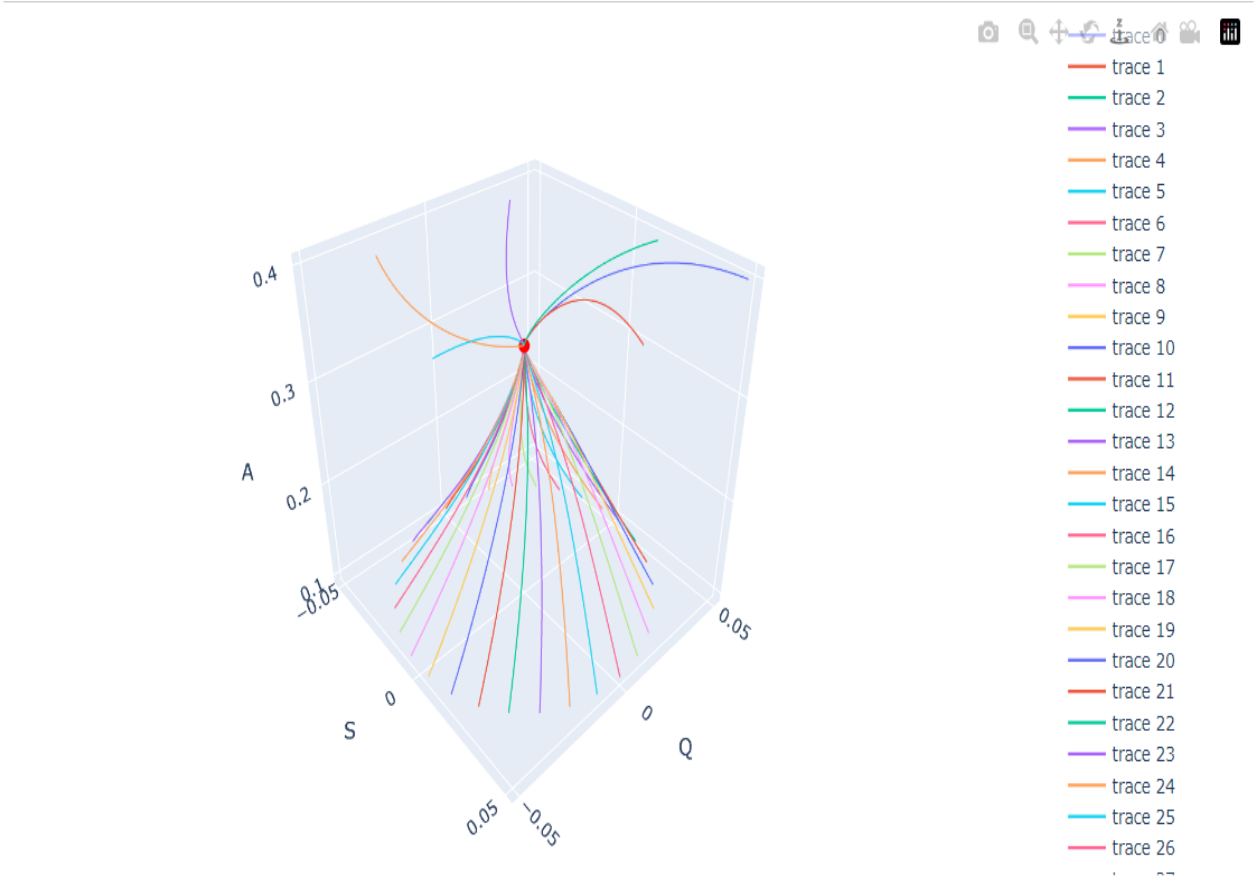
2. Plot of q(t) vs t:



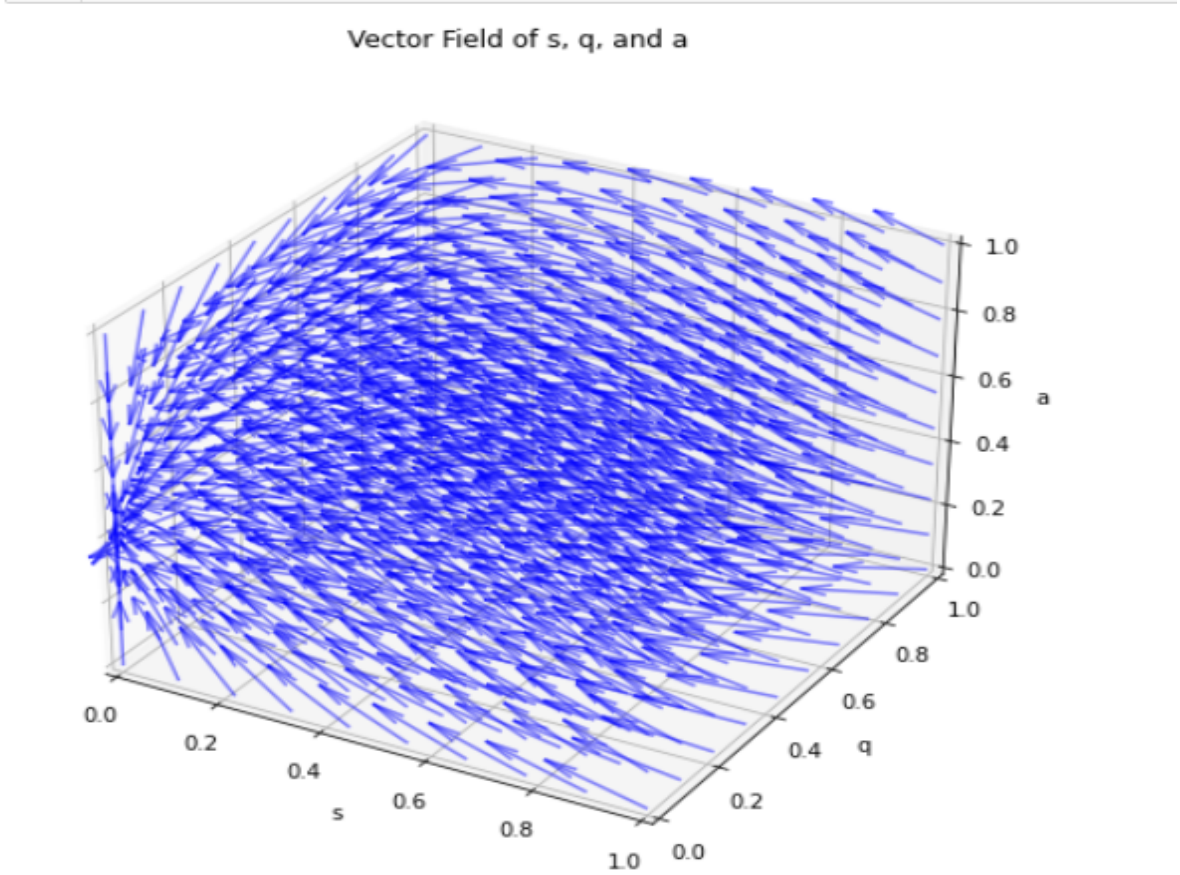
3. Plot of a(t) vs t:



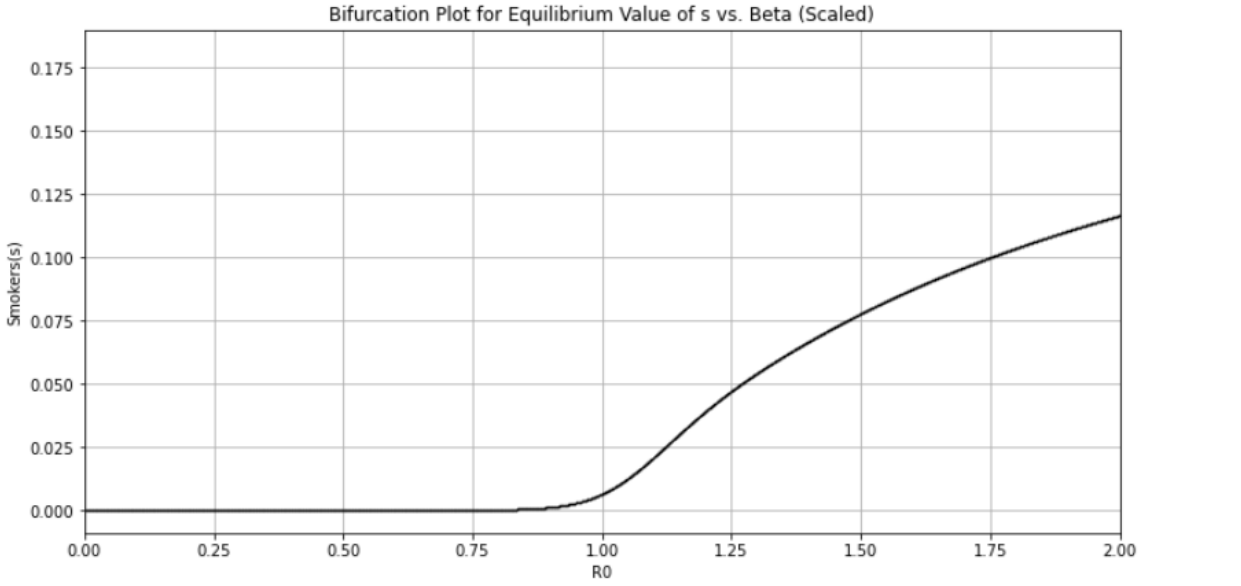
4. Global Stability:



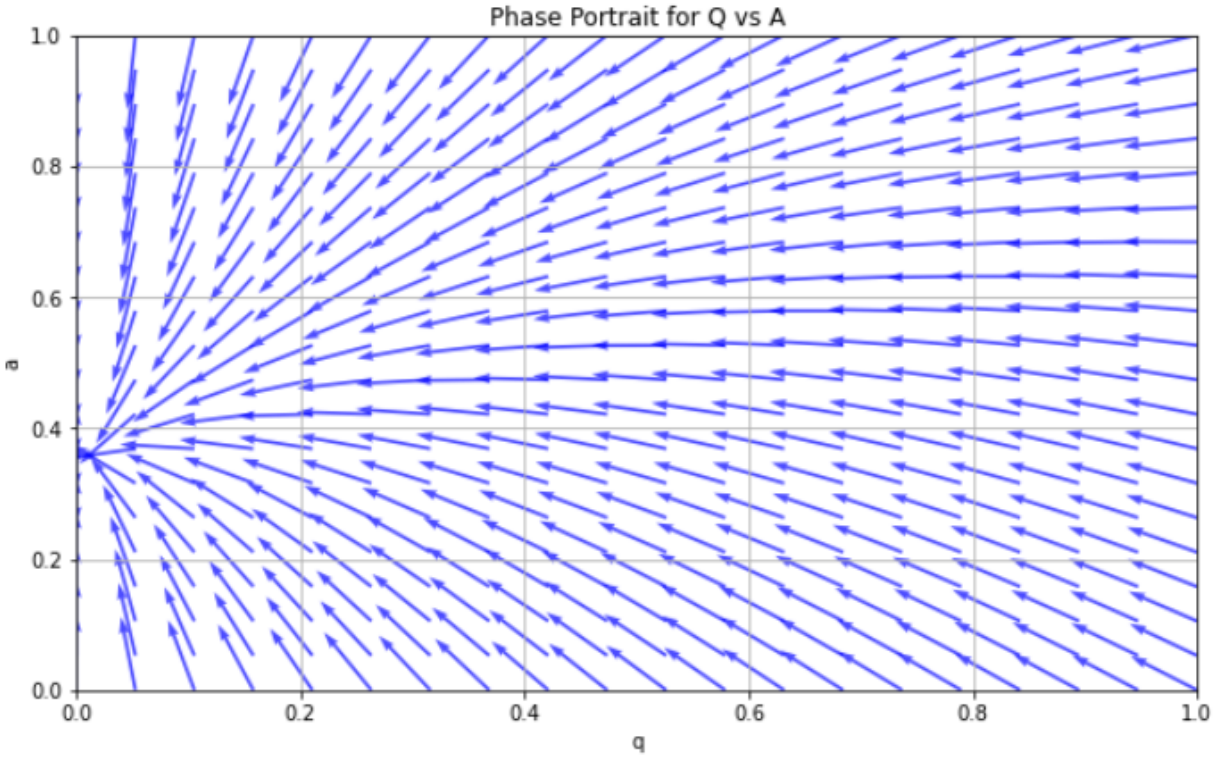
5. s, q, a Vector field: (3D)



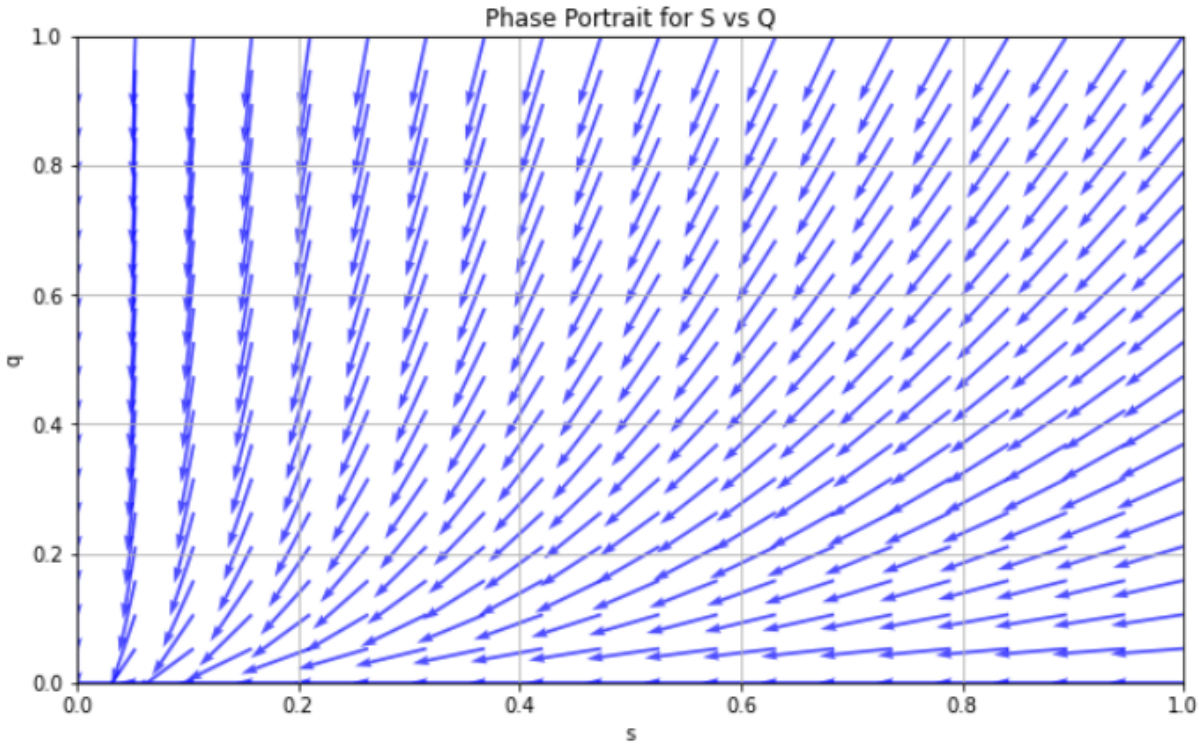
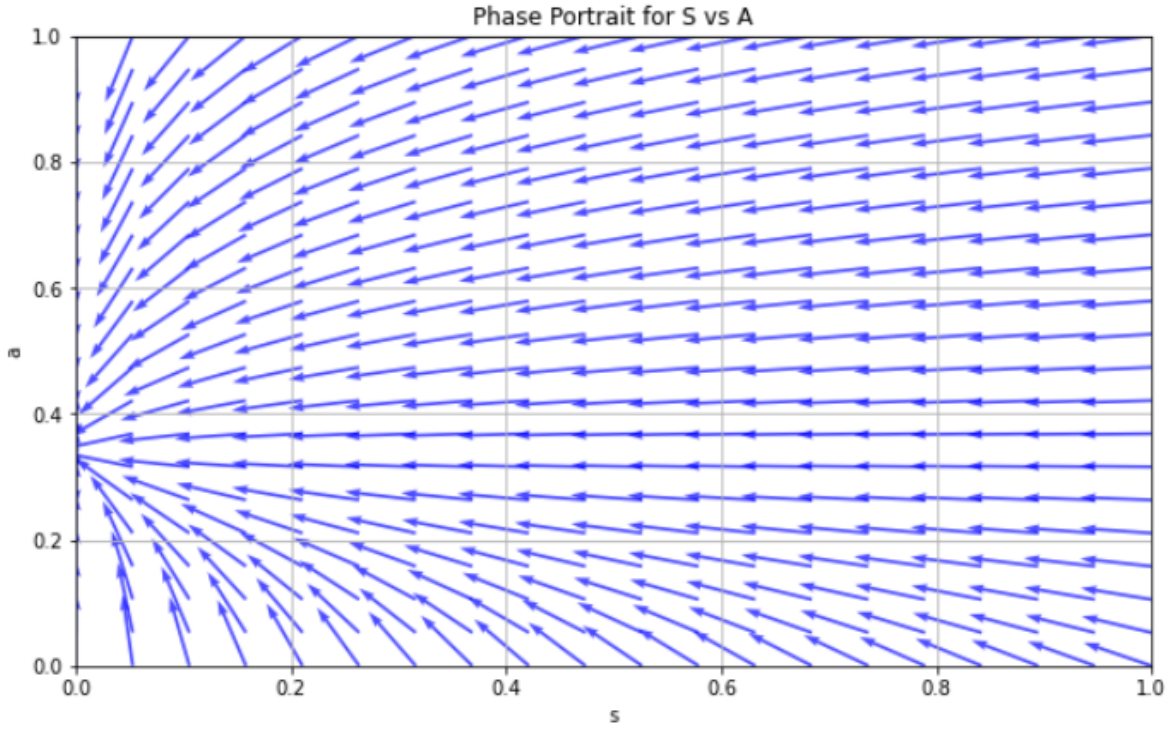
6. Bifurcation stuff:



7. Q vs A phase portrait:



8. Q vs S phase portrait:



9. S vs A phase portrait: