

CodeNight0.1

November 25, 2018

1 Done:

- Coded up F-H model, plot phase plane using ODE45.
- Turned it into VDP model for simplicity
- Plotted graphs of max amplitude against bifurcation parameter
- Ran using `parfor` to speed up 100 runs, seems deterministic – no variety in output. True behaviour or quirk of ODE solver?
- Tweaked parameters playing with behaviour, seemed to have got canard/behaviour switching.

2 What's Good?

- Found a range where canards can happen.
- Found multiple behaviours at one point.

3 What Next?

- Look at stochastic models as intended.
- Write own ODE solver.
- Work out whether system should be deterministic or not. How can there be randomness in a deterministic system?
- Read more into F-N model for intuition.