

H-Optim Notes

MATLAB

① define function

② function dState = function name (t, state)

③ define initial conditions

④ define DE system eq.

⑤ define dstate

$$dstate = \left[\frac{dx}{dt}, \frac{dy}{dt}, \frac{dz}{dt} \right]$$

end

define span of t

$$tspan = [t_0, t_f];$$

define initial conditions as one vector

$$[-j -j -j] \Rightarrow \text{it can be defined w/ ode45 in MATLAB}$$

define solutions in terms of 'solution' in ode45 line

$$B_sol = solution(:, i)$$

↳ B solutions are all rows in column one of solution matrix

solutions in matrix
bec use
'initials'
vector

state vector
of each rate value
in its own column
rate value of
matrix (S)

derivative of each

$$state(1) = 5$$

Put in correct order
in column of state
vector

$$state(2) = 1, state(3) = 1$$

↳ establishing relevance of 'state' in function definition