

```

%%%% RHS function %%%
function f = rhsfunc(t,y,n0,beta)
f1 = y(2);
f2 = (beta-n0)*y(1);
f = [f1;f2];

%%%% main script %%%

close all;clc

tol = 10^-4;
n0=100;
xp = [-1 1];
A=1;
x0 = [0;A];
beta_start = n0;

for modes = 1:5
beta= beta_start;
dbeta = n0/100;

for j=1:1000

[t,y] = ode45( @(t,y) rhsfunc(t,y,n0,beta),xp,x0);

if abs(y(end,1)-0)<tol
    beta
    break;
end

if (-1)^(modes+1)*(y(end,1))>0
    beta = beta-dbeta;
else
    beta = beta + dbeta/2;
    dbeta = dbeta/2;
end
end

beta_start = beta-0.1;
plot(t,y(:,1)); hold on;
end

```