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17/ENG01/008

CHEMICAL ENGINEERING

ENG 382 ASSIGNMENT 4- ENGINEERING MATHEMATICS ASSIGNMENT 4

FUNCTION COMMAND

function dQdt = onlineass(t,Q)

dQdt(1) = -(15/500)\*Q(1) + (5/1000)\*Q(2) +1;

dQdt(2) = (15/500)\*Q(1) - (18/1000)\*Q(2) +(3/400)\*Q(3);

dQdt(3)=(13/1000)\*Q(2)-(13/400)\*Q(3);

dQdt = dQdt';

SIMULATION

commandwindow

clearvars

clc

close all

[t,Q]= ode45('onlineass',[0:45:1200],[0 0 0]);

figure(1)

subplot(3,1,1)

plot(t,Q(:,1),'o-g')

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend('Tank')

grid on

grid minor

axis tight

subplot(3,1,2)

plot(t,Q(:,2),'\*b')

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend('Tank2')

grid on

grid minor

axis tight

subplot(3,1,3)

plot(t,Q(:,1),'+-r')

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend('Tank2')

grid on

grid minor

axis tight

RESULT

