UKPAI CHINENYE SHALOM

17/ENG01/028

CHEMICAL ENGINEERING

ENG 382 ASSIGNMENT 4

**FUNCTION FILE**

function dqdt= shaxynnn(t,q)

dqdt(1)=(-0.03\*q(1))+(0.005\*q(2))+1;

dqdt(2)=(0.03\*q(1))-(0.018\*q(2))+(0.0075\*q(3));

dqdt(3)=(0.013\*q(2))-(0.0325\*q(3));

dqdt=dqdt';

end

**SIMULATION FILE**

Commandwindow

clearvars

clc

close all

[t,q]= ode45('shaxynnn',[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 1')

grid on

grid minor

axis tight

subplot(3,1,2)

plot(t,q(:,2),'\*-b')

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend ('Tank 2')

grid on

grid minor

axis tight

subplot(3,1,3)

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

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend ('Tank 3')

grid on

grid minor

axis tight

