Vẽ hình trái tim

syms t t1 t2 l1 l2 X Y

l1 = 50

l2 = 50

for t = -pi: 0.05 :pi

%Tinh toan dong hoc nguoc, tam 40 40, r =10

X = 16\*(sin(t))^3;

Y = 13\*cos(t)- 5\*cos(2\*t)- 2\*cos(3\*t)- cos(4\*t);

c2 = (X^2 + Y^2 -l1^2 -l2^2)/ (2\*l1\*l2) % /2 \* l1 \* l2 thi hieu la chia 2 sau do nhan l1 va l2

s2 = sqrt(abs(1-c2^2));

% can bac hai khong bao gio am nhung vi tinh gan dung nen gia tri ra so

% am vi no ve so phuc chinh vi vay cho abs vao

t2 = atan2(s2,c2);

c1 = (l1 + l2\*c2)\*X + l2\*s2\*Y;

s1 = (l1 + l2\*c2)\*Y - l2\*s2\*X;

t1 = atan2(s1,c1);

%TInh toan dong hoc thuan

Px = l1\*cos(t1) + l2\*cos(t1+t2)

Py = l1\*sin(t1) + l2\*sin(t1+t2)

subplot(2,2,1) %vi tri

plot(t, t1\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA1')

hold on

subplot(2,2,2) %vi tri

plot(t, t2\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA2')

hold on

subplot(2,2,3)

plot(Px,Py, '-\*')

pause(0.001)

xlabel('x(cm)')

ylabel('y(cm)')

hold on

end

Chart

Description automatically generated

Vẽ Bươm Bướm

syms t t1 t2 l1 l2 X Y

l1 = 50

l2 = 50

for t = 0: 0.05 : 2\*pi

%Tinh toan dong hoc nguoc, tam 40 40, r =10

X = sin(t)\*((exp(cos(t)))-2\*cos(4\*t)-(sin(t/12))^5);

Y = cos(t)\*((exp(cos(t)))-2\*cos(4\*t)-(sin(t/12))^5);

c2 = (X^2 + Y^2 -l1^2 -l2^2)/ (2\*l1\*l2) % /2 \* l1 \* l2 thi hieu la chia 2 sau do nhan l1 va l2

s2 = sqrt(abs(1-c2^2));

% can bac hai khong bao gio am nhung vi tinh gan dung nen gia tri ra so

% am vi no ve so phuc chinh vi vay cho abs vao

t2 = atan2(s2,c2);

c1 = (l1 + l2\*c2)\*X + l2\*s2\*Y;

s1 = (l1 + l2\*c2)\*Y - l2\*s2\*X;

t1 = atan2(s1,c1);

%TInh toan dong hoc thuan

Px = l1\*cos(t1) + l2\*cos(t1+t2)

Py = l1\*sin(t1) + l2\*sin(t1+t2)

subplot(2,2,1) %vi tri

plot(t, t1\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA1')

hold on

subplot(2,2,2) %vi tri

plot(t, t2\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA2')

hold on

subplot(2,2,3)

plot(Px,Py, '-\*')

pause(0.001)

xlabel('x(cm)')

ylabel('y(cm)')

hold on

end

Chart

Description automatically generated

Vẽ bông hoa 4 cánh

syms t t1 t2 l1 l2 X Y

l1 = 50

l2 = 50

for t = 0: 0.05 : 2\*pi

%Tinh toan dong hoc nguoc, tam 40 40, r =10

X = sin(2\*t)\*cos(t);

Y = sin(2\*t)\*sin(t);

c2 = (X^2 + Y^2 -l1^2 -l2^2)/ (2\*l1\*l2) % /2 \* l1 \* l2 thi hieu la chia 2 sau do nhan l1 va l2

s2 = sqrt(abs(1-c2^2));

% can bac hai khong bao gio am nhung vi tinh gan dung nen gia tri ra so

% am vi no ve so phuc chinh vi vay cho abs vao

t2 = atan2(s2,c2);

c1 = (l1 + l2\*c2)\*X + l2\*s2\*Y;

s1 = (l1 + l2\*c2)\*Y - l2\*s2\*X;

t1 = atan2(s1,c1);

%TInh toan dong hoc thuan

Px = l1\*cos(t1) + l2\*cos(t1+t2)

Py = l1\*sin(t1) + l2\*sin(t1+t2)

subplot(2,2,1) %vi tri

plot(t, t1\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA1')

hold on

subplot(2,2,2) %vi tri

plot(t, t2\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA2')

hold on

subplot(2,2,3)

plot(Px,Py, '-\*')

pause(0.001)

xlabel('x(cm)')

ylabel('y(cm)')

hold on

end

Diagram

Description automatically generated

Vẽ hoa 6 cánh

syms t t1 t2 l1 l2 X Y

l1 = 50

l2 = 50

for t = 0: 0.05 : 2\*pi

%Tinh toan dong hoc nguoc, tam 40 40, r =10

X = (4+4\*cos(6\*t))\*sin(t);

Y = (4+4\*cos(6\*t))\*cos(t);

c2 = (X^2 + Y^2 -l1^2 -l2^2)/ (2\*l1\*l2) % /2 \* l1 \* l2 thi hieu la chia 2 sau do nhan l1 va l2

s2 = sqrt(abs(1-c2^2));

% can bac hai khong bao gio am nhung vi tinh gan dung nen gia tri ra so

% am vi no ve so phuc chinh vi vay cho abs vao

t2 = atan2(s2,c2);

c1 = (l1 + l2\*c2)\*X + l2\*s2\*Y;

s1 = (l1 + l2\*c2)\*Y - l2\*s2\*X;

t1 = atan2(s1,c1);

%TInh toan dong hoc thuan

Px = l1\*cos(t1) + l2\*cos(t1+t2)

Py = l1\*sin(t1) + l2\*sin(t1+t2)

subplot(2,2,1) %vi tri

plot(t, t1\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA1')

hold on

subplot(2,2,2) %vi tri

plot(t, t2\*(180/pi), '-o')

pause(0.001)

xlabel('TIME')

ylabel('THETA2')

hold on

subplot(2,2,3)

plot(Px,Py, '-\*')

pause(0.001)

xlabel('x(cm)')

ylabel('y(cm)')

hold on

end

Chart

Description automatically generated