OZIORO PEACE DOUTIMI

17/ENG03/048

CIVIL ENGINEERING

commandwindow

clear

clc

close all

syms t

v(t)=110\*cos(120\*pi\*t)

i=diff(v)

p=diff(i)

t=0:0.01:0.35

vn=subs(v)

vnn=double(vn)

in=subs(i)

inn=double(in)

pn=subs(p)

pnn=double(pn)

plot(t,vnn)

hold on

plot(t,inn)

hold on

plot(t,pnn)

legend('voltage(v)','current(i)','power(w)')

grid on

grid minor

v(t) =

110\*cos(120\*pi\*t)

i(t) =

-13200\*pi\*sin(120\*pi\*t)

p(t) =

-1584000\*pi^2\*cos(120\*pi\*t)

t =

 Columns 1 through 5

 0 0.0100 0.0200 0.0300 0.0400

 Columns 6 through 10

 0.0500 0.0600 0.0700 0.0800 0.0900

 Columns 11 through 15

 0.1000 0.1100 0.1200 0.1300 0.1400

 Columns 16 through 20

 0.1500 0.1600 0.1700 0.1800 0.1900

 Columns 21 through 25

 0.2000 0.2100 0.2200 0.2300 0.2400

 Columns 26 through 30

 0.2500 0.2600 0.2700 0.2800 0.2900

 Columns 31 through 35

 0.3000 0.3100 0.3200 0.3300 0.3400

 Column 36

 0.3500

vn(t) =

[ 110, - (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, - (55\*5^(1/2))/2 - 55/2, 110, - (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, - (55\*5^(1/2))/2 - 55/2, 110, - (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, - (55\*5^(1/2))/2 - 55/2, 110, - (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, - (55\*5^(1/2))/2 - 55/2, 110, - (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, - (55\*5^(1/2))/2 - 55/2, 110, - (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, - (55\*5^(1/2))/2 - 55/2, 110, - (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, (55\*5^(1/2))/2 - 55/2, - (55\*5^(1/2))/2 - 55/2, 110]

vnn =

 Columns 1 through 5

 110.0000 -88.9919 33.9919 33.9919 -88.9919

 Columns 6 through 10

 110.0000 -88.9919 33.9919 33.9919 -88.9919

 Columns 11 through 15

 110.0000 -88.9919 33.9919 33.9919 -88.9919

 Columns 16 through 20

 110.0000 -88.9919 33.9919 33.9919 -88.9919

 Columns 21 through 25

 110.0000 -88.9919 33.9919 33.9919 -88.9919

 Columns 26 through 30

 110.0000 -88.9919 33.9919 33.9919 -88.9919

 Columns 31 through 35

 110.0000 -88.9919 33.9919 33.9919 -88.9919

 Column 36

 110.0000

in(t) =

[ 0, 3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), -3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), 3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), -3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), 0, 3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), -3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), 3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), -3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), 0, 3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), -3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), 3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), -3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), 0, 3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), -3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), 3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), -3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), 0, 3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), -3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), 3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), -3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), 0, 3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), -3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), 3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), -3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), 0, 3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), -3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), 3300\*pi\*2^(1/2)\*(5^(1/2) + 5)^(1/2), -3300\*2^(1/2)\*pi\*(5 - 5^(1/2))^(1/2), 0]

inn =

 1.0e+04 \*

 Columns 1 through 5

 0 2.4375 -3.9439 3.9439 -2.4375

 Columns 6 through 10

 0 2.4375 -3.9439 3.9439 -2.4375

 Columns 11 through 15

 0 2.4375 -3.9439 3.9439 -2.4375

 Columns 16 through 20

 0 2.4375 -3.9439 3.9439 -2.4375

 Columns 21 through 25

 0 2.4375 -3.9439 3.9439 -2.4375

 Columns 26 through 30

 0 2.4375 -3.9439 3.9439 -2.4375

 Columns 31 through 35

 0 2.4375 -3.9439 3.9439 -2.4375

 Column 36

 0

pn(t) =

[ -1584000\*pi^2, 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2, 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2, 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2, 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2, 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2, 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2, 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), -1584000\*pi^2\*(5^(1/2)/4 - 1/4), 1584000\*pi^2\*(5^(1/2)/4 + 1/4), -1584000\*pi^2]

pnn =

 1.0e+07 \*

 Columns 1 through 5

 -1.5633 1.2648 -0.4831 -0.4831 1.2648

 Columns 6 through 10

 -1.5633 1.2648 -0.4831 -0.4831 1.2648

 Columns 11 through 15

 -1.5633 1.2648 -0.4831 -0.4831 1.2648

 Columns 16 through 20

 -1.5633 1.2648 -0.4831 -0.4831 1.2648

 Columns 21 through 25

 -1.5633 1.2648 -0.4831 -0.4831 1.2648

 Columns 26 through 30

 -1.5633 1.2648 -0.4831 -0.4831 1.2648

 Columns 31 through 35

 -1.5633 1.2648 -0.4831 -0.4831 1.2648

 Column 36

 -1.5633

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