

```

clear all
clc

%dati
An=150e3;
cosfin=1
Vn=380;
xs=180/100;
Veccn=160;
Ieccn=8;

%dati carico
Vl=380
Rl=4
Xl=10

cosfirif=0.9

om=2*pi*50
In=An/(sqrt(3)*Vn)
Xs=xs*Vn/(sqrt(3)*In)

Zl=sqrt(Rl^2+Xl^2)
Il=Vn/sqrt(3)/Zl
fi=atan(Xl/Rl)
Pl=sqrt(3)*Vn*Il*cos(fi)
Ql=sqrt(3)*Vn*Il*sin(fi)
Qrif=Ql-Pl*tan(acos(cosfirif))
Is=Qrif/(sqrt(3)*Vn)
fis=pi/2

Er=Vn/sqrt(3)+Xs*Is*sin(fis)
Ei=Xs*Is*cos(fis)
E=sqrt(Ei^2+Er^2)
Ern=Vn/sqrt(3)+Xs*In*sin(acos(cosfin))
Ein=Xs*In*cosfin
En=sqrt(Ern^2+Ein^2)
Vecc=E/En*Veccn
delta=atan(Ei/Er)

cosfin =

    1

Vl =

    380

```

$Rl =$

4

$Xl =$

10

$cosfirif =$

0.9000

$om =$

314.1593

$In =$

227.9014

$Xs =$

1.7328

$Zl =$

10.7703

$Il =$

20.3701

$fi =$

1.1903

$Pl =$

4.9793e+03

$Ql =$

1.2448e+04

$Q_{rif} =$

$1.0037e+04$

$I_s =$

15.2492

$f_{is} =$

1.5708

$E_r =$

245.8169

$E_i =$

$1.6180e-15$

$E =$

245.8169

$E_{rn} =$

219.3931

$E_{in} =$

394.9076

$E_n =$

451.7580

$V_{ecc} =$

87.0614

$\delta =$

$6.5821e-18$

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