

```

function [Y,yg,yg0]=Ybus(mreza,cvorovi,t)
[ngr,npod]=size(mreza);cvi=mreza(:,1);cvj=mreza(:,2);tipel=mreza(:,3);
rgr=mreza(:,4);xgr=mreza(:,5);bgrz=mreza(:,6);
ygrz=li*bgrz;
zgr=rgr+li*xgr;
[m,n]=size(cvorovi);Yot=cvorovi(1:m,9);
Yot=diag(li*Yot); % otocne admitanse u cvorovima (kondezatori,
prigusnice...)
for k=1:ngr %izracunavanje elemenata matrica yg i yg0
    zg(cvi(k),cvj(k))=zgr(k);
    zg(cvj(k),cvi(k))=zgr(k);
    yg(cvi(k),cvj(k))=1/zg(cvi(k),cvj(k))/t(k);
    yg(cvj(k),cvi(k))=1/zg(cvj(k),cvi(k))/t(k);
    if tipel(k)==1
        yg0(cvi(k),cvj(k))=ygrz(k)/2;
        yg0(cvj(k),cvi(k))=ygrz(k)/2;
    elseif tipel(k)==2
        yg0(cvi(k),cvj(k))=(1-t(k))/t(k)^2*(1/zgr(k));
        yg0(cvj(k),cvi(k))=(t(k)-1)/t(k)*(1/zgr(k));
    end
end
yg0=yg0+Yot;
nbus=max(max(cvi,cvj));
for ii=1:nbus %izracunavanje elemenata matrice Y
    for jj=1:nbus
        if ii==jj
            Y(ii,jj)=sum(yg(ii,:))+sum(yg0(ii,:));
        else
            Y(ii,jj)=-yg(ii,jj);
        end
    end
end
end

```