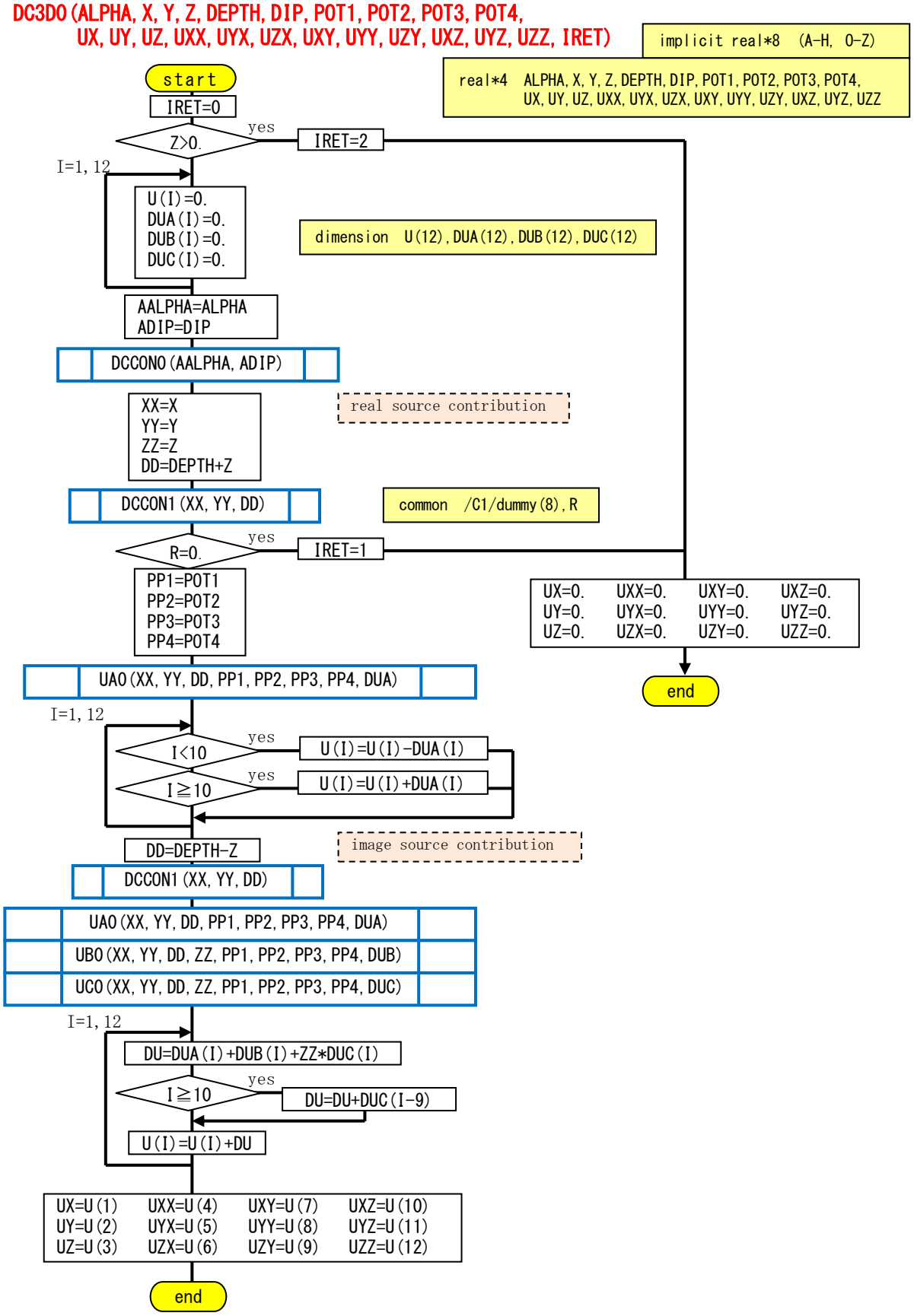
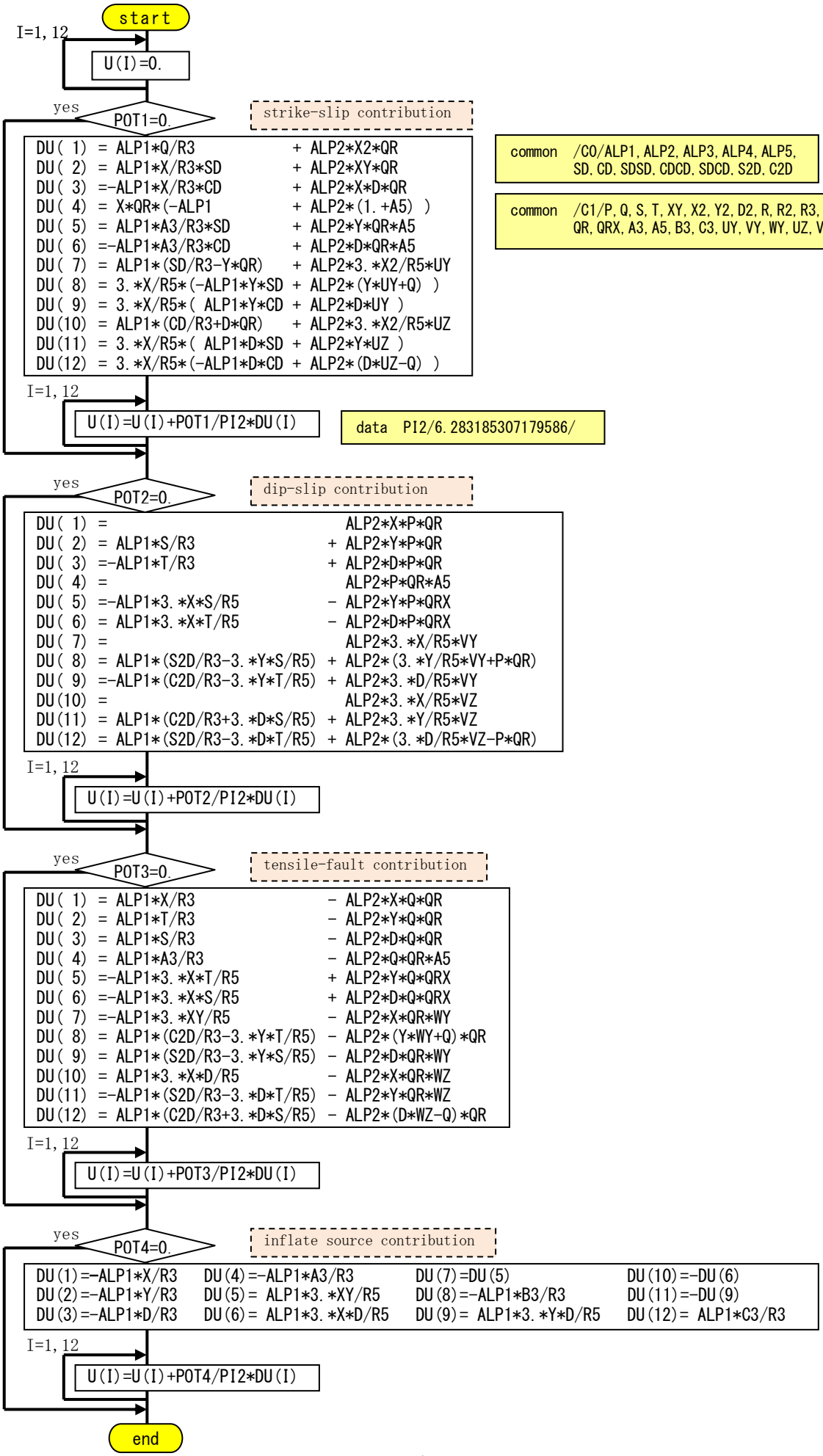
Flow chart of DC3D0

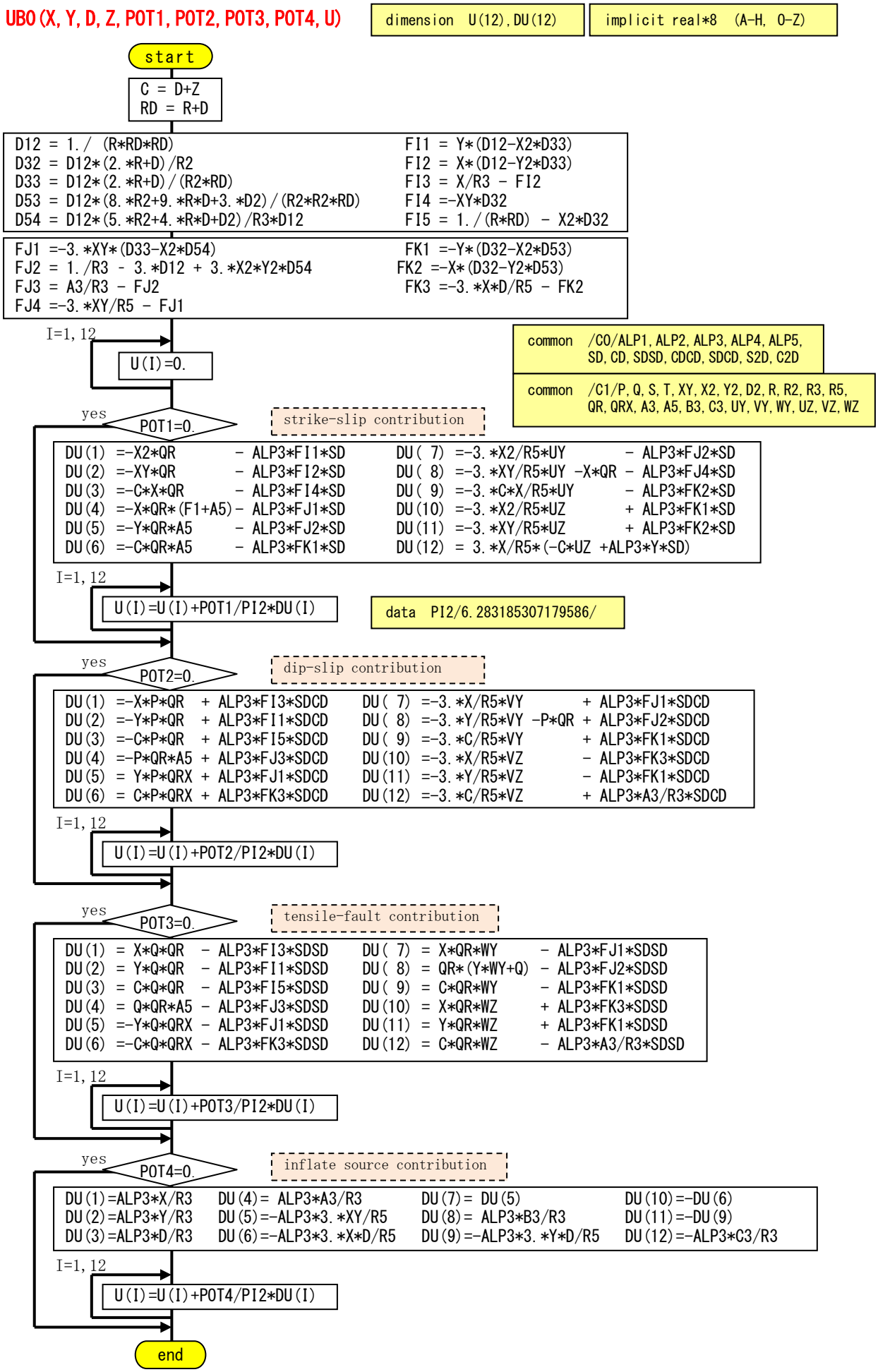
DC3D0 (ALPHA, X, Y, Z, DEPTH, DIP, POT1, POT2, POT3, POT4, UX, UY, UZ, UXX, UYX, UZX, UXY, UYY, UZY, UXZ, UYZ, UZZ, IRET)

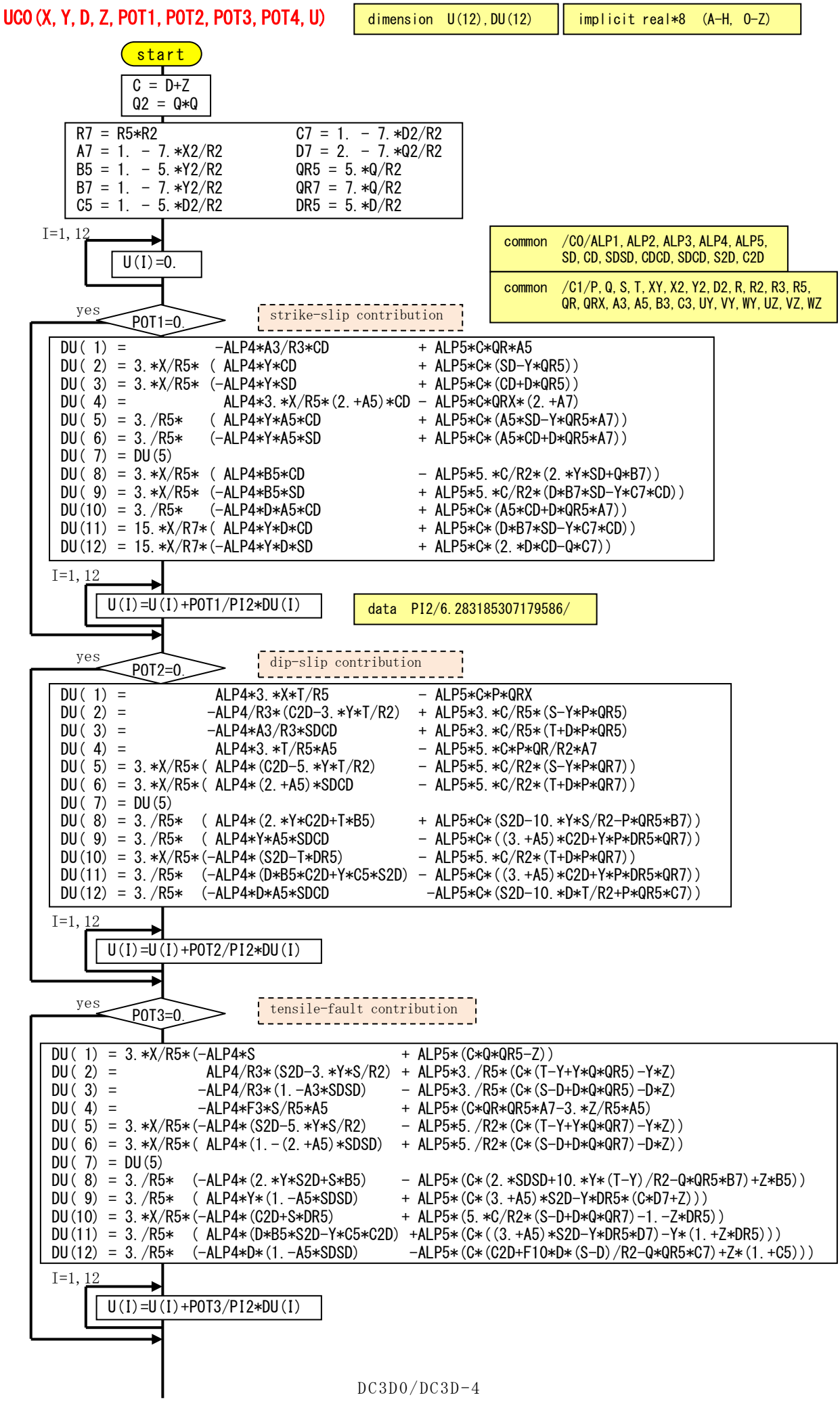


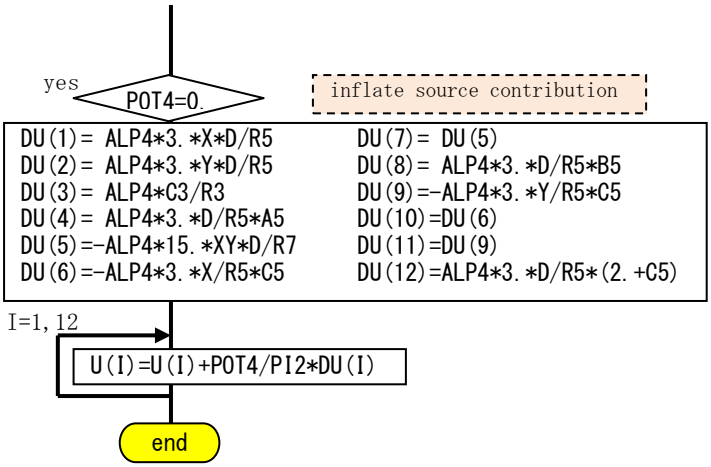
UA0(X, Y, D, POT1, POT2, POT3, POT4, U)

```
dimension  U(12),DU(12)
implicit real*8  (A-H, O-Z)
```

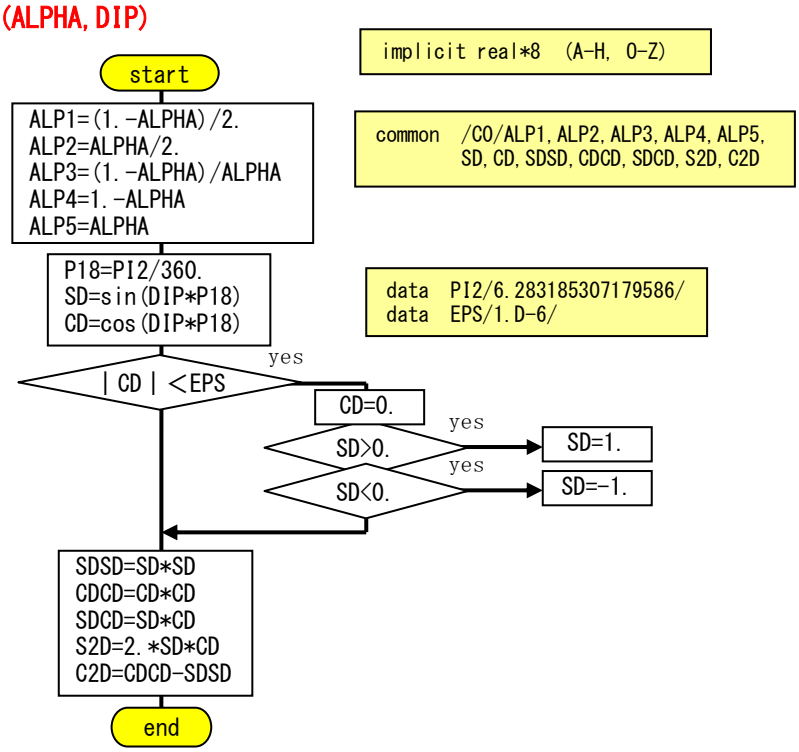



UBO(X,Y,D,Z,POT1,POT2,POT3,POT4,U)
dimension U(12),DU(12)
implicit real*8 (A-H, O-Z)
start
C = D+Z
RD = R+D
D12 = 1./ (R*RD*RD)
D32 = D12*(2.*R+D)/R2
D33 = D12*(2.*R+D)/(R2*RD)
D53 = D12*(8.*R2+9.*R*D+3.*D2)/(R2*R2*RD)
D54 = D12*(5.*R2+4.*R*D+D2)/R3*D12
FI1 = Y*(D12-X2*D33)
FI2 = X*(D12-Y2*D33)
FI3 = X/R3 - FI2
FI4 =-XY*D32
FI5 = 1./(R*RD) - X2*D32
FJ1 =-3.*XY*(D33-X2*D54)
FJ2 = 1./R3 - 3.*D12 + 3.*X2*Y2*D54
FJ3 = A3/R3 - FJ2
FJ4 =-3.*XY/R5 - FJ1
FK1 =-Y*(D32-X2*D53)
FK2 =-X*(D32-Y2*D53)
FK3 =-3.*X*D/R5 - FK2
I=1,12
U(I)=0.
common /C0/ALP1,ALP2,ALP3,ALP4,ALP5,
SD,CD,SDSD,CDCD,SDCD,S2D,C2D
common /C1/P,Q,S,T,XY,X2,Y2,D2,R,R2,R3,R5,
QR,QRX,A3,A5,B3,C3,UY,VY,WY,UZ,VZ,WZ
yes
POT1=0.
strike-slip contribution
DU(1) =-X2*QR - ALP3*FI1*SD
DU(2) =-XY*QR - ALP3*FI2*SD
DU(3) =-C*X*QR - ALP3*FI4*SD
DU(4) =-X*QR*(F1+A5)- ALP3*FJ1*SD
DU(5) =-Y*QR*A5 - ALP3*FJ2*SD
DU(6) =-C*QR*A5 - ALP3*FK1*SD
DU(7) =-3.*X2/R5*UY - ALP3*FJ2*SD
DU(8) =-3.*XY/R5*UY -X*QR - ALP3*FJ4*SD
DU(9) =-3.*C*X/R5*UY - ALP3*FK2*SD
DU(10) =-3.*X2/R5*UZ + ALP3*FK1*SD
DU(11) =-3.*XY/R5*UZ + ALP3*FK2*SD
DU(12) = 3.*X/R5*(-C*UZ +ALP3*Y*SD)
I=1,12
U(I)=U(I)+POT1/PI2*DU(I)
data PI2/6.283185307179586/
yes
POT2=0.
dip-slip contribution
DU(1) =-X*P*QR + ALP3*FI3*SDCD
DU(2) =-Y*P*QR + ALP3*FI1*SDCD
DU(3) =-C*P*QR + ALP3*FI5*SDCD
DU(4) =-P*QR*A5 + ALP3*FJ3*SDCD
DU(5) = Y*P*QRX + ALP3*FJ1*SDCD
DU(6) = C*P*QRX + ALP3*FK3*SDCD
DU(7) =-3.*X/R5*VY + ALP3*FJ1*SDCD
DU(8) =-3.*Y/R5*VY -P*QR + ALP3*FJ2*SDCD
DU(9) =-3.*C/R5*VY + ALP3*FK1*SDCD
DU(10) =-3.*X/R5*VZ - ALP3*FK3*SDCD
DU(11) =-3.*Y/R5*VZ - ALP3*FK1*SDCD
DU(12) =-3.*C/R5*VZ + ALP3*A3/R3*SDCD
I=1,12
U(I)=U(I)+POT2/PI2*DU(I)
yes
POT3=0.
tensile-fault contribution
DU(1) = X*Q*QR - ALP3*FI3*SDSD
DU(2) = Y*Q*QR - ALP3*FI1*SDSD
DU(3) = C*Q*QR - ALP3*FI5*SDSD
DU(4) = Q*QR*A5 - ALP3*FJ3*SDSD
DU(5) =-Y*Q*QRX - ALP3*FJ1*SDSD
DU(6) =-C*Q*QRX - ALP3*FK3*SDSD
DU(7) = X*QR*WY - ALP3*FJ1*SDSD
DU(8) = QR*(Y*WY+Q) - ALP3*FJ2*SDSD
DU(9) = C*QR*WY - ALP3*FK1*SDSD
DU(10) = X*QR*WZ + ALP3*FK3*SDSD
DU(11) = Y*QR*WZ + ALP3*FK1*SDSD
DU(12) = C*QR*WZ - ALP3*A3/R3*SDSD
I=1,12
U(I)=U(I)+POT3/PI2*DU(I)
yes
POT4=0.
inflate source contribution
DU(1)=ALP3*X/R3
DU(2)=ALP3*Y/R3
DU(3)=ALP3*D/R3
DU(4)= ALP3*A3/R3
DU(5)=-ALP3*3.*XY/R5
DU(6)=-ALP3*3.*X*D/R5
DU(7)= DU(5)
DU(8)= ALP3*B3/R3
DU(9)=-ALP3*3.*Y*D/R5
DU(10)=-DU(6)
DU(11)=-DU(9)
DU(12)=-ALP3*C3/R3
I=1,12
U(I)=U(I)+POT4/PI2*DU(I)
end

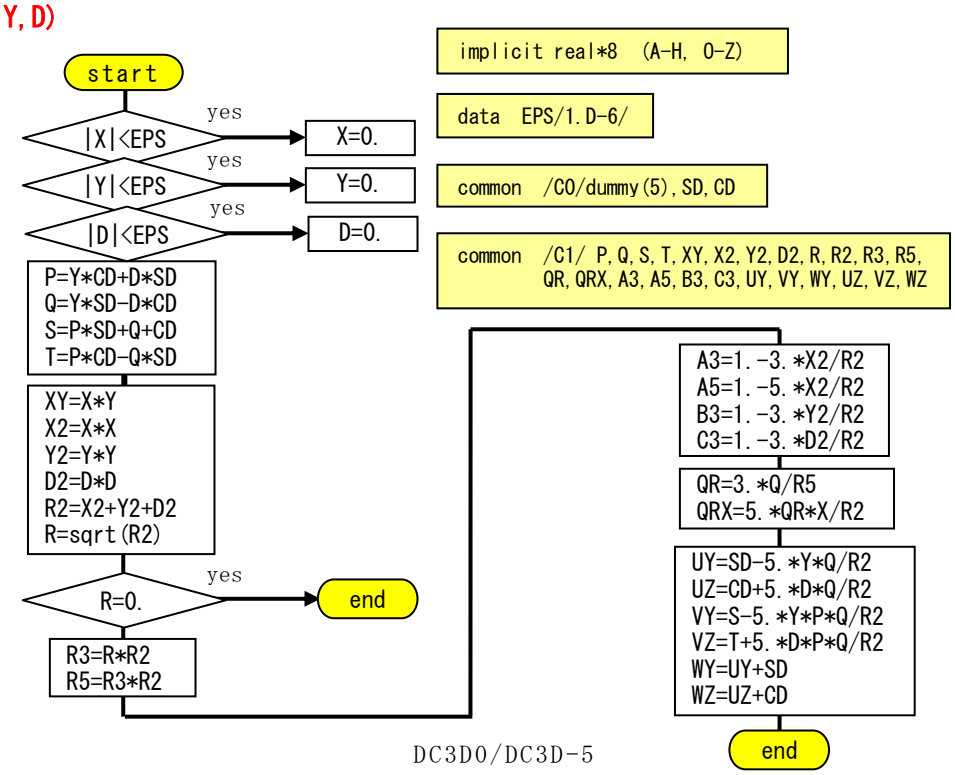

UC0(X, Y, D, Z, POT1, POT2, POT3, POT4, U)
dimension U(12),DU(12)
implicit real*8 (A-H, O-Z)
start
C = D+Z
Q2 = Q*Q
R7 = R5*R2
A7 = 1. - 7.*X2/R2
B5 = 1. - 5.*Y2/R2
B7 = 1. - 7.*Y2/R2
C5 = 1. - 5.*D2/R2
C7 = 1. - 7.*D2/R2
D7 = 2. - 7.*Q2/R2
QR5 = 5.*Q/R2
QR7 = 7.*Q/R2
DR5 = 5.*D/R2
I=1, 12
U(I)=0.
common /C0/ALP1, ALP2, ALP3, ALP4, ALP5, SD, CD, SDSD, CDCD, SDCD, S2D, C2D
common /C1/P, Q, S, T, XY, X2, Y2, D2, R, R2, R3, R5, QR, QRX, A3, A5, B3, C3, UY, VY, WY, UZ, VZ, WZ
yes
POT1=0.
strike-slip contribution
DU(1) = -ALP4*A3/R3*CD + ALP5*C*QR*A5
DU(2) = 3.*X/R5* (ALP4*Y*CD + ALP5*C*(SD-Y*QR5))
DU(3) = 3.*X/R5* (-ALP4*Y*SD + ALP5*C*(CD+D*QR5))
DU(4) = ALP4*3.*X/R5*(2.+A5)*CD - ALP5*C*QRX*(2.+A7)
DU(5) = 3./R5* (ALP4*Y*A5*CD + ALP5*C*(A5*SD-Y*QR5*A7))
DU(6) = 3./R5* (-ALP4*Y*A5*SD + ALP5*C*(A5*CD+D*QR5*A7))
DU(7) = DU(5)
DU(8) = 3.*X/R5* (ALP4*B5*CD - ALP5*5.*C/R2*(2.*Y*SD+Q*B7))
DU(9) = 3.*X/R5* (-ALP4*B5*SD + ALP5*5.*C/R2*(D*B7*SD-Y*C7*CD))
DU(10) = 3./R5* (-ALP4*D*A5*CD + ALP5*C*(A5*CD+D*QR5*A7))
DU(11) = 15.*X/R7*(ALP4*Y*D*CD + ALP5*C*(D*B7*SD-Y*C7*CD))
DU(12) = 15.*X/R7*(-ALP4*Y*D*SD + ALP5*C*(2.*D*CD-Q*C7))
I=1, 12
U(I)=U(I)+POT1/PI2*DU(I)
data PI2/6.283185307179586/
yes
POT2=0.
dip-slip contribution
DU(1) = ALP4*3.*X*T/R5 - ALP5*C*P*QRX
DU(2) = -ALP4/R3*(C2D-3.*Y*T/R2) + ALP5*3.*C/R5*(S-Y*P*QR5)
DU(3) = -ALP4*A3/R3*SDCD + ALP5*3.*C/R5*(T+D*P*QR5)
DU(4) = ALP4*3.*T/R5*A5 - ALP5*5.*C*P*QR/R2*A7
DU(5) = 3.*X/R5*(ALP4*(C2D-5.*Y*T/R2) - ALP5*5.*C/R2*(S-Y*P*QR7))
DU(6) = 3.*X/R5*(ALP4*(2.+A5)*SDCD - ALP5*5.*C/R2*(T+D*P*QR7))
DU(7) = DU(5)
DU(8) = 3./R5* (ALP4*(2.*Y*C2D+T*B5) + ALP5*C*(S2D-10.*Y*S/R2-P*QR5*B7))
DU(9) = 3./R5* (ALP4*Y*A5*SDCD - ALP5*C*((3.+A5)*C2D+Y*P*DR5*QR7))
DU(10) = 3.*X/R5*(-ALP4*(S2D-T*DR5) - ALP5*5.*C/R2*(T+D*P*QR7))
DU(11) = 3./R5* (-ALP4*(D*B5*C2D+Y*C5*S2D) - ALP5*C*((3.+A5)*C2D+Y*P*DR5*QR7))
DU(12) = 3./R5* (-ALP4*D*A5*SDCD -ALP5*C*(S2D-10.*D*T/R2+P*QR5*C7))
I=1, 12
U(I)=U(I)+POT2/PI2*DU(I)
yes
POT3=0.
tensile-fault contribution
DU(1) = 3.*X/R5*(-ALP4*S + ALP5*(C*Q*QR5-Z))
DU(2) = ALP4/R3*(S2D-3.*Y*S/R2) + ALP5*3./R5*(C*(T-Y+Y*Q*QR5)-Y*Z)
DU(3) = -ALP4/R3*(1.-A3*SDSD) - ALP5*3./R5*(C*(S-D+D*Q*QR5)-D*Z)
DU(4) = -ALP4*F3*S/R5*A5 + ALP5*(C*QR*QR5*A7-3.*Z/R5*A5)
DU(5) = 3.*X/R5*(-ALP4*(S2D-5.*Y*S/R2) - ALP5*5./R2*(C*(T-Y+Y*Q*QR7)-Y*Z))
DU(6) = 3.*X/R5*(ALP4*(1.-(2.+A5)*SDSD) + ALP5*5./R2*(C*(S-D+D*Q*QR7)-D*Z))
DU(7) = DU(5)
DU(8) = 3./R5* (-ALP4*(2.*Y*S2D+S*B5) - ALP5*(C*(2.*SDSD+10.*Y*(T-Y)/R2-Q*QR5*B7)+Z*B5))
DU(9) = 3./R5* (ALP4*Y*(1.-A5*SDSD) + ALP5*(C*(3.+A5)*S2D-Y*DR5*(C*D7+Z)))
DU(10) = 3.*X/R5*(-ALP4*(C2D+S*DR5) + ALP5*(5.*C/R2*(S-D+D*Q*QR7)-1.-Z*DR5))
DU(11) = 3./R5* (ALP4*(D*B5*S2D-Y*C5*C2D) +ALP5*(C*((3.+A5)*S2D-Y*DR5*D7)-Y*(1.+Z*DR5)))
DU(12) = 3./R5* (-ALP4*D*(1.-A5*SDSD) -ALP5*(C*(C2D+F10*D*(S-D)/R2-Q*QR5*C7)+Z*(1.+C5)))
I=1, 12
U(I)=U(I)+POT3/PI2*DU(I)



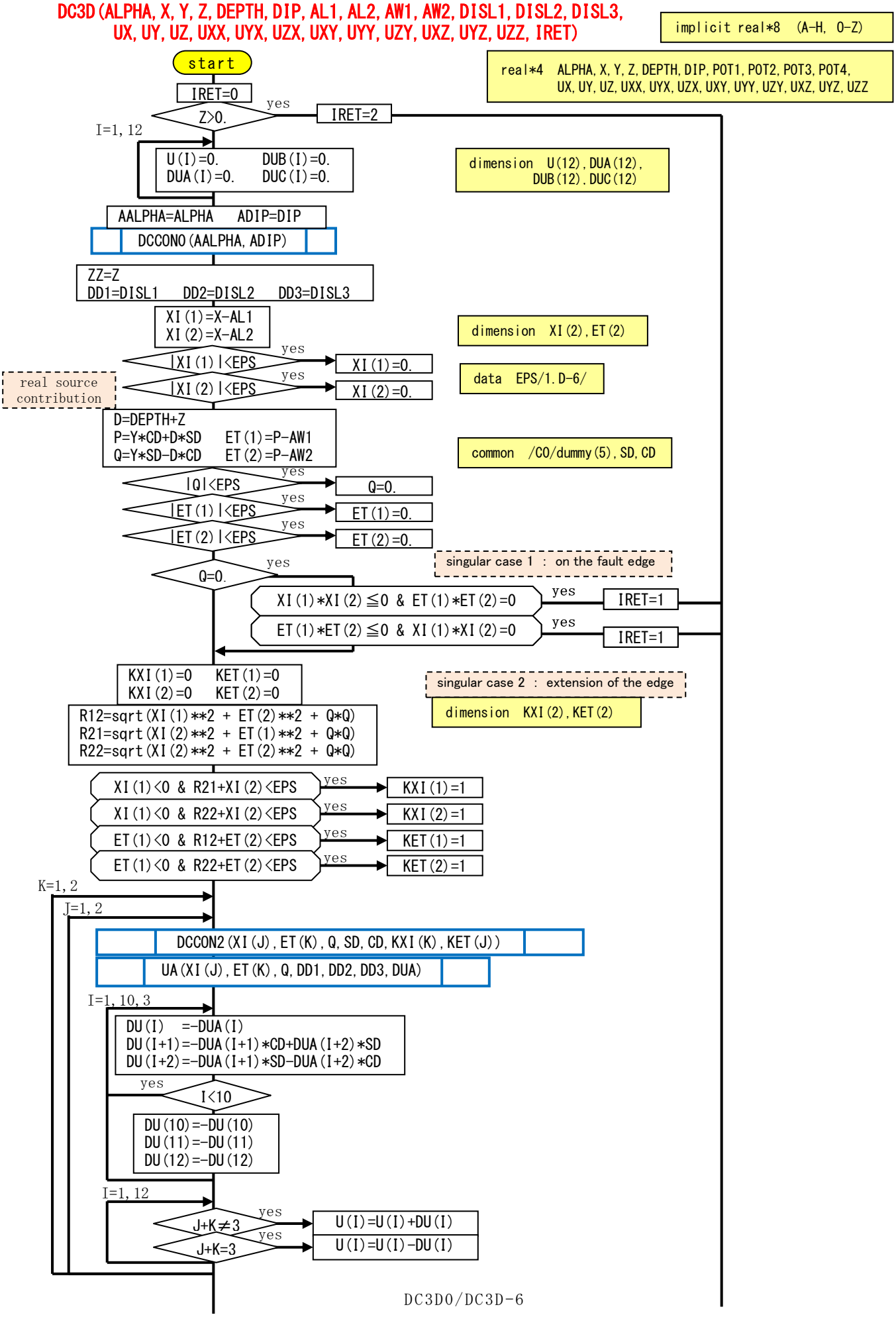
DCCON0(ALPHA,DIP)



DCCON1(X,Y,D)



Flow chart of DC3D



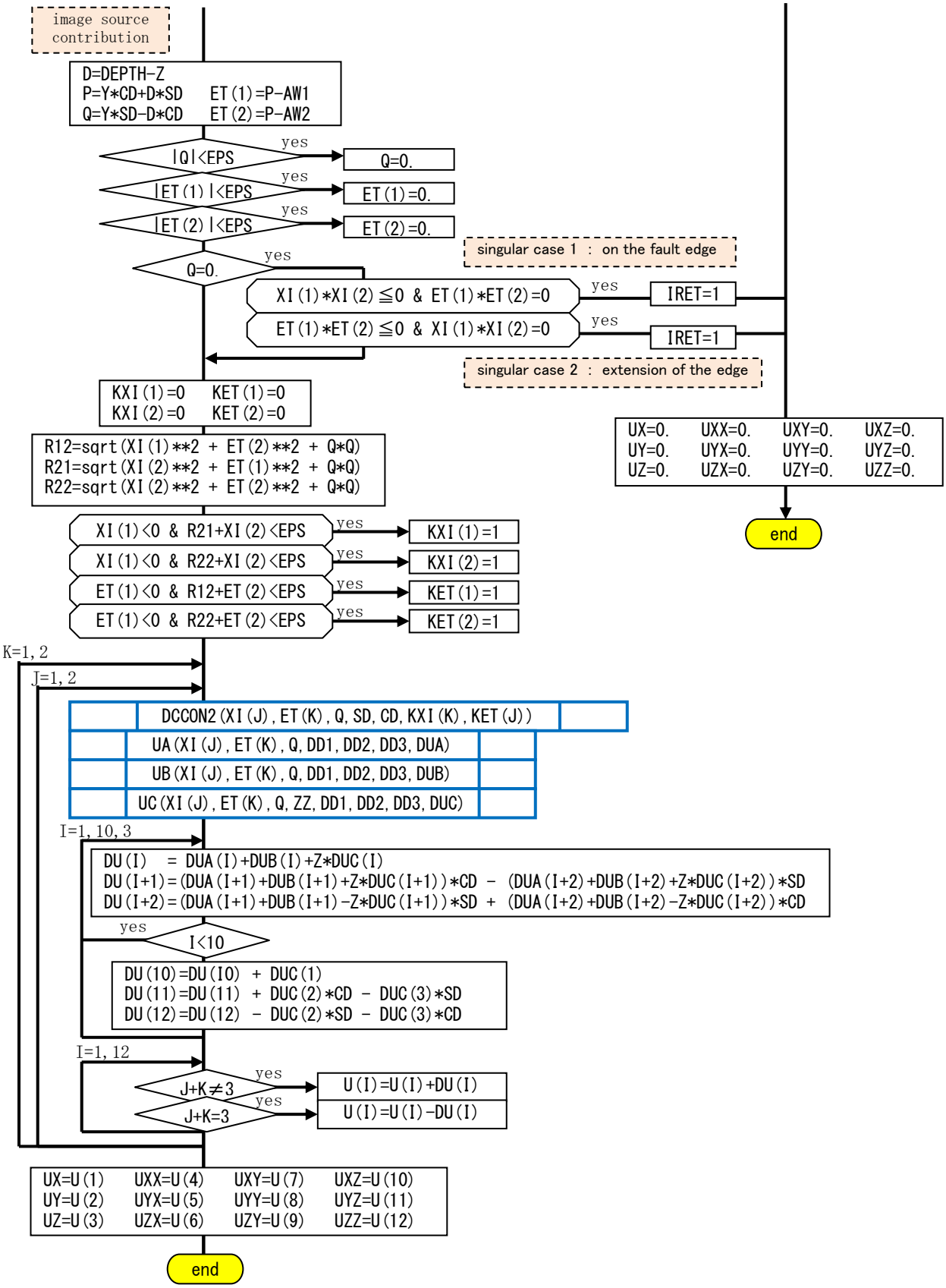
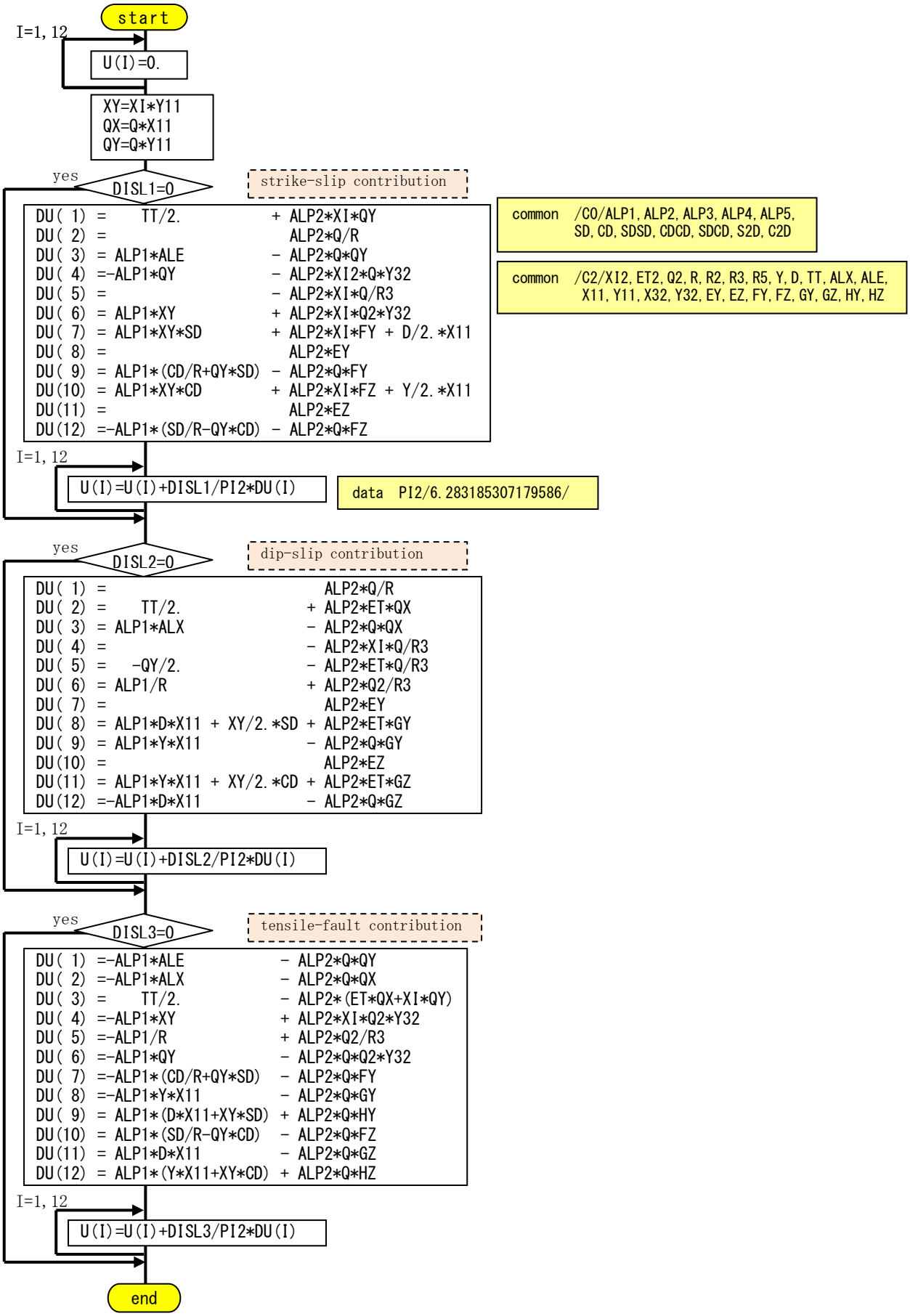


image source contribution
D=DEPTH-Z
P=Y*CD+D*SD ET(1)=P-AW1
Q=Y*SD-D*CD ET(2)=P-AW2
|Q|<EPS
yes
Q=0.
|ET(1)|<EPS
yes
ET(1)=0.
|ET(2)|<EPS
yes
ET(2)=0.
Q=0.
yes
singular case 1 : on the fault edge
XI(1)*XI(2)≦0 & ET(1)*ET(2)=0
yes
IRET=1
ET(1)*ET(2)≦0 & XI(1)*XI(2)=0
yes
IRET=1
singular case 2 : extension of the edge
KXI(1)=0 KET(1)=0
KXI(2)=0 KET(2)=0
UX=0. UXX=0. UXY=0. UXZ=0.
UY=0. UYX=0. UYY=0. UYZ=0.
UZ=0. UZX=0. UZY=0. UZZ=0.
end
R12=sqrt(XI(1)**2 + ET(2)**2 + Q*Q)
R21=sqrt(XI(2)**2 + ET(1)**2 + Q*Q)
R22=sqrt(XI(2)**2 + ET(2)**2 + Q*Q)
XI(1)<0 & R21+XI(2)<EPS
yes
KXI(1)=1
XI(1)<0 & R22+XI(2)<EPS
yes
KXI(2)=1
ET(1)<0 & R12+ET(2)<EPS
yes
KET(1)=1
ET(1)<0 & R22+ET(2)<EPS
yes
KET(2)=1
K=1, 2
J=1, 2
DCCON2(XI(J), ET(K), Q, SD, CD, KXI(K), KET(J))
UA(XI(J), ET(K), Q, DD1, DD2, DD3, DUA)
UB(XI(J), ET(K), Q, DD1, DD2, DD3, DUB)
UC(XI(J), ET(K), Q, ZZ, DD1, DD2, DD3, DUC)
I=1, 10, 3
DU(I) = DUA(I)+DUB(I)+Z*DUC(I)
DU(I+1)=(DUA(I+1)+DUB(I+1)+Z*DUC(I+1))*CD - (DUA(I+2)+DUB(I+2)+Z*DUC(I+2))*SD
DU(I+2)=(DUA(I+1)+DUB(I+1)-Z*DUC(I+1))*SD + (DUA(I+2)+DUB(I+2)-Z*DUC(I+2))*CD
yes
I<10
DU(10)=DU(10) + DUC(1)
DU(11)=DU(11) + DUC(2)*CD - DUC(3)*SD
DU(12)=DU(12) - DUC(2)*SD - DUC(3)*CD
I=1, 12
J+K≠3
yes
U(I)=U(I)+DU(I)
J+K=3
yes
U(I)=U(I)-DU(I)
UX=U(1) UXX=U(4) UXY=U(7) UXZ=U(10)
UY=U(2) UYX=U(5) UYY=U(8) UYZ=U(11)
UZ=U(3) UZX=U(6) UZY=U(9) UZZ=U(12)
end

UA(XI,ET,Q,DISL1,DISL2,DISL3,U)

```
dimension  U(12),DU(12)
```

```
implicit real*8  (A-H, O-Z)
```



UB(XI,ET,Q,DISL1,DISL2,DISL3,U)

```
dimension  U(12),DU(12)
implicit real*8  (A-H, O-Z)
common  /C0/ALP1,ALP2,ALP3,ALP4,ALP5,
        SD,CD,SDSD,CDCD,SDCD,S2D,C2D
common  /C2/XI2,ET2,Q2,R,R2,R3,R5,Y,D,TT,ALX,ALE,
        X11,Y11,X32,Y32,EY,EZ,FY,FZ,GY,GZ,HY,HZ
```

start

```
RD = R+D
D11=1./(R*RD)
AJ2= XI*Y/RD*D11
AJ5=-(D+Y*Y/RD)*D11
```

CD=0. (yes)

XI=0. (yes) → AI4=0.

```
X=sqrt(XI2+Q2)
AI4=1./CDCD*(XI/RD*SDCD
    +2.*atan((ET*(X+Q*CD)+X*(R+X)*SD)/(XI*(R+X)*CD))
```

```
AI3=(Y*CD/RD-ALE+SD*log(RD))/CDCD
AK1=XI*(D11-Y11*SD)/CD
AK3=   (Q*Y11-Y*D11)/CD
AJ3=(AK1-AJ2*SD)/CD
AJ6=(AK3-AJ5*SD)/CD
```

```
RD2 = RD*RD
AI3 = (ET/RD+Y*Q/RD2-ALE)/2.
AI4 = XI*Y/RD2/2.
AK1 = XI*Q/RD*D11
AK3 = SD/RD*(XI2*D11-1.)
AJ3 =-XI/RD2*(Q2*D11-1./2.)
AJ6 =-Y/RD2*(XI2*D11-1./2.)
```

```
XY=XI*Y11
AI1=-XI/RD*CD-AI4*SD
AI2= log(RD) +AI3*SD
AK2=1./R +AK3*SD
AK4=XY*CD-AK1*SD
AJ1=AJ5*CD-AJ6*SD
AJ4=-XY-AJ2*CD+AJ3*SD
```

I=1,12

```
U(I)=0.
```

DISL1=0 (yes) — strike-slip contribution

```
DU(1) =-XI*QY -TT - ALP3*AI1*SD     DU( 7) =-XI*FY - D*X11 + ALP3*( XY +AJ4)*SD
DU(2) =-Q/R       + ALP3*Y/RD*SD    DU( 8) =-EY            + ALP3*(1./R+AJ5)*SD
DU(3) = Q*QY      - ALP3*AI2*SD     DU( 9) = Q*FY          - ALP3*( QY -AJ6)*SD
DU(4) = XI2*Q*Y32 - ALP3*AJ1*SD     DU(10) =-XI*FZ - Y*X11 + ALP3* AK1 *SD
DU(5) = XI*Q/R3   - ALP3*AJ2*SD     DU(11) =-EZ            + ALP3*Y*D11*SD
DU(6) =-XI*Q2*Y32 - ALP3*AJ3*SD     DU(12) = Q*FZ          + ALP3* AK2 *SD
```

I=1,12

```
U(I)=U(I)+DISL1/PI2*DU(I)
```

```
data  PI2/6.283185307179586/
```

DISL2=0 (yes) — dip-slip contribution

```
DU(1) =-Q/R         + ALP3*AI3*SDCD     DU( 7) =-EY              + ALP3*AJ1*SDCD
DU(2) =-ET*QX - TT - ALP3*XI/RD*SDCD    DU( 8) =-ET*GY - XY*SD + ALP3*AJ2*SDCD
DU(3) = Q*QX        + ALP3*AI4*SDCD     DU( 9) = Q*GY            + ALP3*AJ3*SDCD
DU(4) = XI*Q/R3     + ALP3*AJ4*SDCD     DU(10) =-EZ              - ALP3*AK3*SDCD
DU(5) = ET*Q/R3+QY  + ALP3*AJ5*SDCD     DU(11) =-ET*GZ - XY*CD - ALP3*XI*D11*SDCD
DU(6) =-Q2/R3       + ALP3*AJ6*SDCD     DU(12) = Q*GZ            - ALP3*AK4*SDCD
```

I=1,12

```
U(I)=U(I)+DISL2/PI2*DU(I)
```

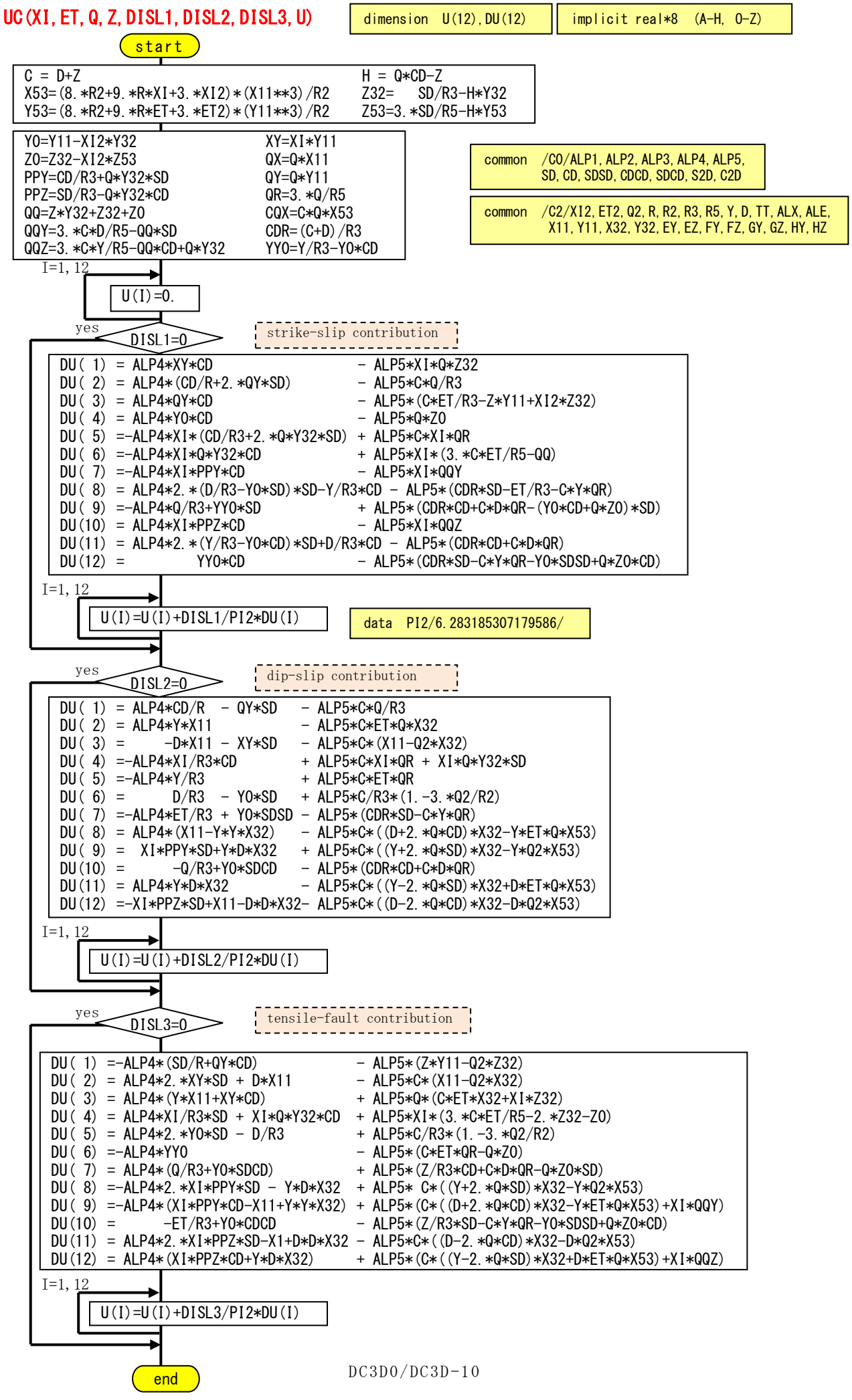
DISL3=0 (yes) — tensile-fault contribution

```
DU( 1) = Q*QY             - ALP3*AI3*SDSD     DU( 7) = Q*FY - ALP3*AJ1*SDSD
DU( 2) = Q*QX             + ALP3*XI/RD*SDSD   DU( 8) = Q*GY - ALP3*AJ2*SDSD
DU( 3) = ET*QX+XI*QY-TT   - ALP3*AI4*SDSD     DU( 9) =-Q*HY - ALP3*AJ3*SDSD
DU( 4) =-XI*Q2*Y32        - ALP3*AJ4*SDSD     DU(10) = Q*FZ + ALP3*AK3*SDSD
DU( 5) =-Q2/R3            - ALP3*AJ5*SDSD     DU(11) = Q*GZ + ALP3*XI*D11*SDSD
DU( 6) = Q*Q2*Y32         - ALP3*AJ6*SDSD     DU(12) =-Q*HZ + ALP3*AK4*SDSD
```

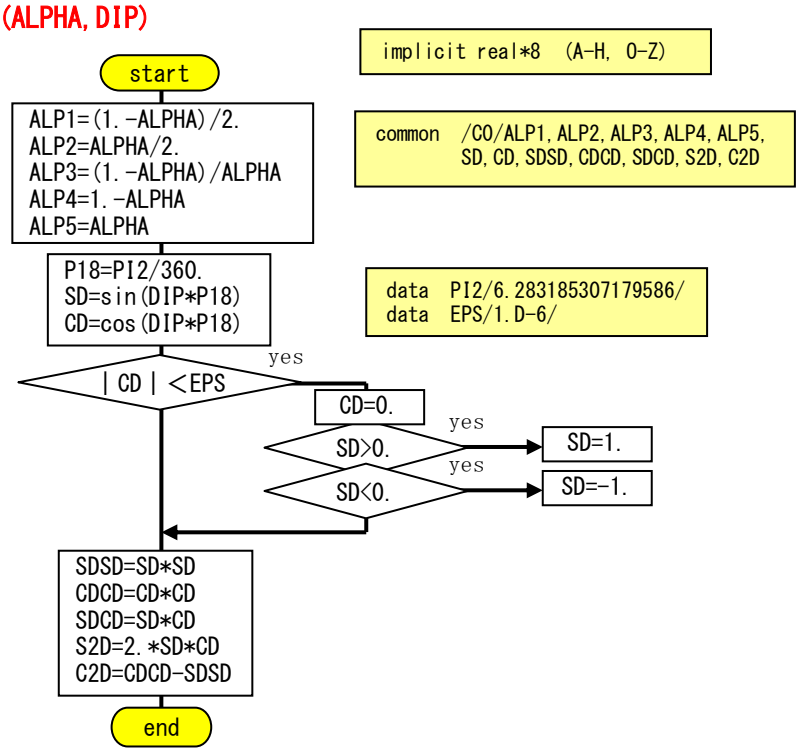
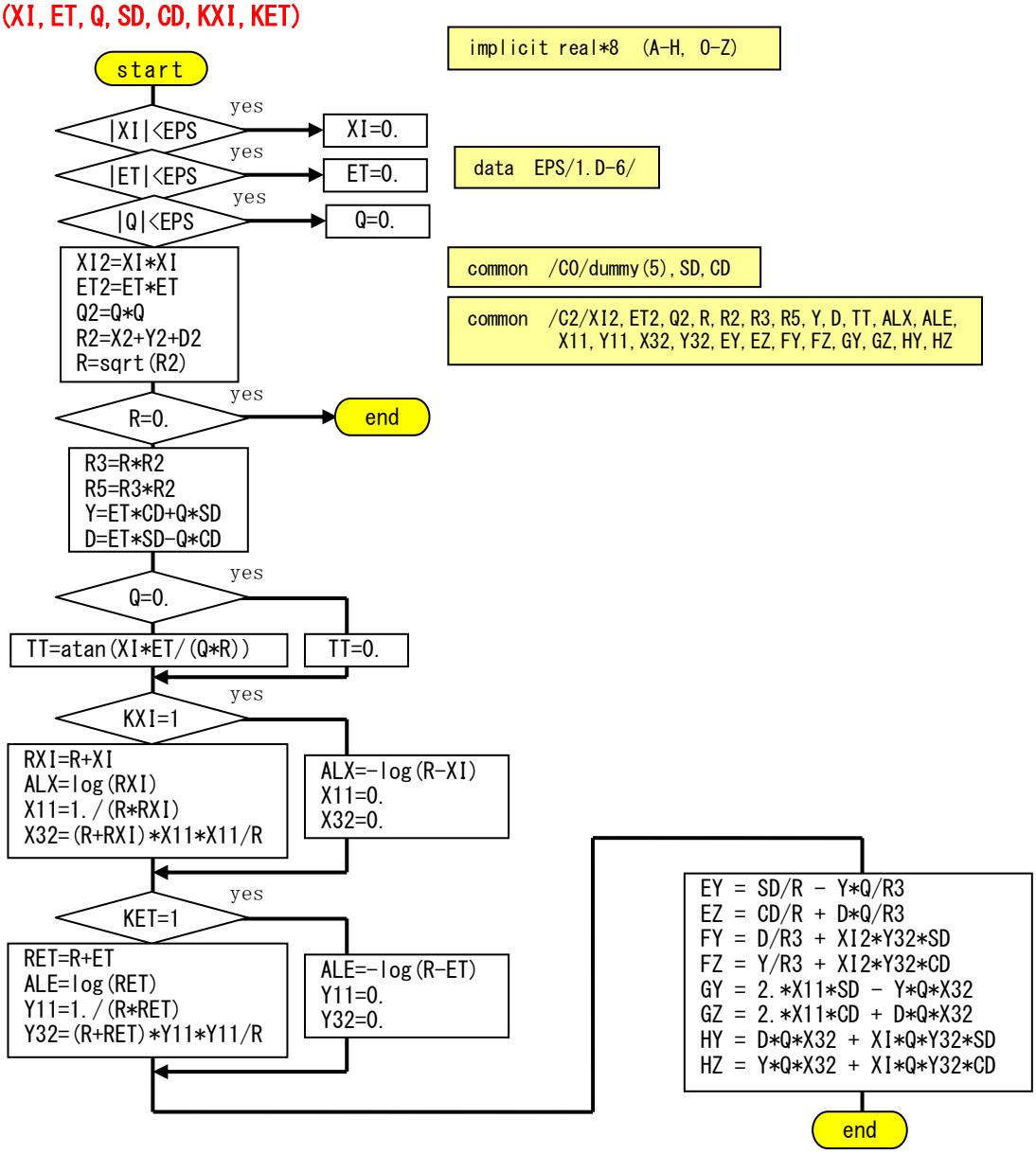
I=1,12

```
U(I)=U(I)+DISL3/PI2*DU(I)
```

end


UC(XI, ET, Q, Z, DISL1, DISL2, DISL3, U)
dimension U(12), DU(12)
implicit real*8 (A-H, O-Z)
start
C = D+Z
X53=(8.*R2+9.*R*XI+3.*XI2)*(X11**3)/R2
Y53=(8.*R2+9.*R*ET+3.*ET2)*(Y11**3)/R2
H = Q*CD-Z
Z32= SD/R3-H*Y32
Z53=3.*SD/R5-H*Y53
YO=Y11-XI2*Y32
ZO=Z32-XI2*Z53
PPY=CD/R3+Q*Y32*SD
PPZ=SD/R3-Q*Y32*CD
QQ=Z*Y32+Z32+ZO
QQY=3.*C*D/R5-QQ*SD
QQZ=3.*C*Y/R5-QQ*CD+Q*Y32
XY=XI*Y11
QX=Q*X11
QY=Q*Y11
QR=3.*Q/R5
CQX=C*Q*X53
CDR=(C+D)/R3
YYO=Y/R3-YO*CD
common /CO/ALP1, ALP2, ALP3, ALP4, ALP5, SD, CD, SDSD, CDCD, SDCD, S2D, C2D
common /C2/XI2, ET2, Q2, R, R2, R3, R5, Y, D, TT, ALX, ALE, X11, Y11, X32, Y32, EY, EZ, FY, FZ, GY, GZ, HY, HZ
I=1, 12
U(I)=0.
yes
DISL1=0
strike-slip contribution
DU(1) = ALP4*XY*CD - ALP5*XI*Q*Z32
DU(2) = ALP4*(CD/R+2.*QY*SD) - ALP5*C*Q/R3
DU(3) = ALP4*QY*CD - ALP5*(C*ET/R3-Z*Y11+XI2*Z32)
DU(4) = ALP4*YO*CD - ALP5*Q*ZO
DU(5) =-ALP4*XI*(CD/R3+2.*Q*Y32*SD) + ALP5*C*XI*QR
DU(6) =-ALP4*XI*Q*Y32*CD + ALP5*XI*(3.*C*ET/R5-QQ)
DU(7) =-ALP4*XI*PPY*CD - ALP5*XI*QQY
DU(8) = ALP4*2.*(D/R3-YO*SD)*SD-Y/R3*CD - ALP5*(CDR*SD-ET/R3-C*Y*QR)
DU(9) =-ALP4*Q/R3+YYO*SD + ALP5*(CDR*CD+C*D*QR-(YO*CD+Q*ZO)*SD)
DU(10) = ALP4*XI*PPZ*CD - ALP5*XI*QQZ
DU(11) = ALP4*2.*(Y/R3-YO*CD)*SD+D/R3*CD - ALP5*(CDR*CD+C*D*QR)
DU(12) = YYO*CD - ALP5*(CDR*SD-C*Y*QR-YO*SDSD+Q*ZO*CD)
I=1, 12
U(I)=U(I)+DISL1/PI2*DU(I)
data PI2/6.283185307179586/
yes
DISL2=0
dip-slip contribution
DU(1) = ALP4*CD/R - QY*SD - ALP5*C*Q/R3
DU(2) = ALP4*Y*X11 - ALP5*C*ET*Q*X32
DU(3) = -D*X11 - XY*SD - ALP5*C*(X11-Q2*X32)
DU(4) =-ALP4*XI/R3*CD + ALP5*C*XI*QR + XI*Q*Y32*SD
DU(5) =-ALP4*Y/R3 + ALP5*C*ET*QR
DU(6) = D/R3 - YO*SD + ALP5*C/R3*(1.-3.*Q2/R2)
DU(7) =-ALP4*ET/R3 + YO*SDSD - ALP5*(CDR*SD-C*Y*QR)
DU(8) = ALP4*(X11-Y*Y*X32) - ALP5*C*((D+2.*Q*CD)*X32-Y*ET*Q*X53)
DU(9) = XI*PPY*SD+Y*D*X32 + ALP5*C*((Y+2.*Q*SD)*X32-Y*Q2*X53)
DU(10) = -Q/R3+YO*SDCD - ALP5*(CDR*CD+C*D*QR)
DU(11) = ALP4*Y*D*X32 - ALP5*C*((Y-2.*Q*SD)*X32+D*ET*Q*X53)
DU(12) =-XI*PPZ*SD+X11-D*D*X32- ALP5*C*((D-2.*Q*CD)*X32-D*Q2*X53)
I=1, 12
U(I)=U(I)+DISL2/PI2*DU(I)
yes
DISL3=0
tensile-fault contribution
DU(1) =-ALP4*(SD/R+QY*CD) - ALP5*(Z*Y11-Q2*Z32)
DU(2) = ALP4*2.*XY*SD + D*X11 - ALP5*C*(X11-Q2*X32)
DU(3) = ALP4*(Y*X11+XY*CD) + ALP5*Q*(C*ET*X32+XI*Z32)
DU(4) = ALP4*XI/R3*SD + XI*Q*Y32*CD + ALP5*XI*(3.*C*ET/R5-2.*Z32-ZO)
DU(5) = ALP4*2.*YO*SD - D/R3 + ALP5*C/R3*(1.-3.*Q2/R2)
DU(6) =-ALP4*YYO - ALP5*(C*ET*QR-Q*ZO)
DU(7) = ALP4*(Q/R3+YO*SDCD) + ALP5*(Z/R3*CD+C*D*QR-Q*ZO*SD)
DU(8) =-ALP4*2.*XI*PPY*SD - Y*D*X32 + ALP5* C*((Y+2.*Q*SD)*X32-Y*Q2*X53)
DU(9) =-ALP4*(XI*PPY*CD-X11+Y*Y*X32) + ALP5*(C*((D+2.*Q*CD)*X32-Y*ET*Q*X53)+XI*QQY)
DU(10) = -ET/R3+YO*CDCD - ALP5*(Z/R3*SD-C*Y*QR-YO*SDSD+Q*ZO*CD)
DU(11) = ALP4*2.*XI*PPZ*SD-X1+D*D*X32 - ALP5*C*((D-2.*Q*CD)*X32-D*Q2*X53)
DU(12) = ALP4*(XI*PPZ*CD+Y*D*X32) + ALP5*(C*((Y-2.*Q*SD)*X32+D*ET*Q*X53)+XI*QQZ)
I=1, 12
U(I)=U(I)+DISL3/PI2*DU(I)
end

DCCON0(ALPHA,DIP)



DCCON2(XI,ET,Q,SD,CD,KXI,KET)