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function DELTA=DLTAS(ANGL,ZETA,ETA,GAMMA,XOVERH,YOVERH,ZOVERH)
V=zeros(3,9);
ADEL=zeros(1,28);
SC=sin(ANGL*0.0174532925199);
CC=cos(ANGL*0.0174532925199);
Z6=ZETA*ZOVERH+1.;
Z8=-Z6;
Z7=Z8-1.;
DELTA=zeros(1,28);
for M=1:7
    for N=1:7
        if N~=4 | M~=4
            V=zeros(3,9);
            ADEL=zeros(1,28);
            AM=M-4;
            AN=N-4;
            X=ZETA*XOVERH;
            Y=ZETA*(YOVERH-2.*AM*GAMMA+GAMMA*(1.-ETA)*(1.-(-1.)^M));
            Z=ZETA*(ZOVERH-4.*AN);
            A=sqrt(X*X+Y*Y+Z*Z);
            B=A+Z*CC-X*SC;
            V(1,1)=((X*X+Y*Y)/(B*A*A*A))-((Z+A*CC)/(B*A))^2;
            V(2,1)=-(X*Z)/(B*A*A*A)-(Z+A*CC)*(X-A*SC)/(B*B*A*A);
            V(3,1)=((Y*Y+Z*Z)/(B*A*A*A))-((X-A*SC)/(B*A))^2;
            Z=-Z-2.;
            A=sqrt(X*X+Y*Y+Z*Z);
            B=A+Z*CC-X*SC;
            V(1,3)=((X*X+Y*Y)/(B*A*A*A))-((Z+A*CC)/(B*A))^2;
            V(2,3)=-(X*Z)/(B*A*A*A)-(Z+A*CC)*(X-A*SC)/(B*B*A*A);
            V(3,3)=((Y*Y+Z*Z)/(B*A*A*A))-((X-A*SC)/(B*A))^2;
            if ANGL~=90
                X=X-(SC/CC);
                Z=-Z-1.;
                A=sqrt(X*X+Y*Y+Z*Z);
                B=A+Z*CC-X*SC;
                V(1,2)=((X*X+Y*Y)/(B*A*A*A))-((Z+A*CC)/(B*A))^2;
                V(2,2)=-(X*Z)/(B*A*A*A)-(Z+A*CC)*(X-A*SC)/(B*B*A*A);
                V(3,2)=((Y*Y+Z*Z)/(B*A*A*A))-((X-A*SC)/(B*A))^2;
                B=A-X;
                V(1,5)=((X*X+Y*Y)/(B*A*A*A))-((Z)/(B*A))^2;
                V(2,5)=Z/(A*A*A);
                V(3,5)=X/(A*A*A);
                Z=-Z;
                B=A+Z*CC-X*SC;
                V(1,4)=((X*X+Y*Y)/(B*A*A*A))-((Z+A*CC)/(B*A))^2;
                V(2,4)=-(X*Z)/(B*A*A*A)-(Z+A*CC)*(X-A*SC)/(B*B*A*A);
                V(3,4)=((Y*Y+Z*Z)/(B*A*A*A))-((X-A*SC)/(B*A))^2;
            end
            ADEL(1)=V(1,1)-V(1,2)-V(1,3)+V(1,4);
            ADEL(2)=V(2,1)-V(2,2)+V(2,3)-V(2,4);
        end
    end
end

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        ADEL(3)=V(2,1)-V(2,2)-V(2,3)+V(2,4)+2.*V(2,5);
        ADEL(4)=V(3,1)-V(3,2)+V(3,3)-V(3,4)+2.*V(3,5);
        ADEL(5)=((-1.)^(M+N))*ADEL(1);
        ADEL(6)=((-1.)^(M+N))*ADEL(2);
        ADEL(7)=((-1.)^(M+N))*ADEL(3);
        ADEL(8)=((-1.)^(M+N))*ADEL(4);
        ADEL(9)=((-1.)^M)*(V(1,1)-V(1,2)+V(1,3)-
V(1,4)+2.*V(1,5));
        ADEL(10)=((-1.)^M)*(V(2,1)-V(2,2)-
V(2,3)+V(2,4)+2.*V(2,5));
        ADEL(11)=((-1.)^M)*(V(2,1)-V(2,2)+V(2,3)-V(2,4));
        ADEL(12)=((-1.)^M)*(V(3,1)-V(3,2)-V(3,3)+V(3,4));
        for J1=1:12
            DELTA(J1)=DELTA(J1)+ADEL(J1);
        end
    end
end
end
for J1=1:8
    DELTA(J1+20)=DELTA(J1);
end
X=ZETA*XOVERH;
Y=ZETA*YOVERH;
Z=Z7;
A=sqrt(X*X+Y*Y+Z*Z);
B=A+Z*CC-X*SC;
V(1,7)=((X*X+Y*Y)/(B*A*A*A))-((Z+A*CC)/(B*A))^2;
V(2,7)=-((X*Z)/(B*A*A*A)-(Z+A*CC)*(X-A*SC)/(B*B*A*A));
V(3,7)=((Y*Y+Z*Z)/(B*A*A*A))-((X-A*SC)/(B*A))^2;
if ANGL~=90
    X=X-(SC/CC);
    Z=Z6;
    A=sqrt(X*X+Y*Y+Z*Z);
    B=A+Z*CC-X*SC;
    V(1,6)=((X*X+Y*Y)/(B*A*A*A))-((Z+A*CC)/(B*A))^2;
    V(2,6)=-((X*Z)/(B*A*A*A)-(Z+A*CC)*(X-A*SC)/(B*B*A*A));
    V(3,6)=((Y*Y+Z*Z)/(B*A*A*A))-((X-A*SC)/(B*A))^2;
    B=A-X;
    V(1,9)=((X*X+Y*Y)/(B*A*A*A))-((Z)/(B*A))^2;
    V(2,9)=Z/(A*A*A);
    V(3,9)=X/(A*A*A);
    Z=Z8;
    B=A+Z*CC-X*SC;
    V(1,8)=((X*X+Y*Y)/(B*A*A*A))-((Z+A*CC)/(B*A))^2;
    V(2,8)=-((X*Z)/(B*A*A*A)-(Z+A*CC)*(X-A*SC)/(B*B*A*A));
    V(3,8)=((Y*Y+Z*Z)/(B*A*A*A))-((X-A*SC)/(B*A))^2;
end
DELTA(13)=-V(1,6)-V(1,7)+V(1,8);
DELTA(14)=-V(2,6)+V(2,7)-V(2,8);
DELTA(15)=-V(2,6)-V(2,7)+V(2,8)+2.*V(2,9);

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DELTA(16)=-V(3,6)+V(3,7)-V(3,8)+2.*V(3,9);
DELTA(17)=-V(1,6)+V(1,7)-V(1,8)+2.*V(1,9);
DELTA(18)=DELTA(15);
DELTA(19)=DELTA(14);
DELTA(20)=-V(3,6)-V(3,7)+V(3,8);
for J1=1:4
    DELTA(J1)=DELTA(J1)+DELTA(J1+12);
end
for J1=5:12
    DELTA(J1)=DELTA(J1)+DELTA(J1+8);
end
AMT=-2.*GAMMA*ZETA*ZETA/3.14159265358979;
for J1=1:28
    DELTA(J1)=AMT*DELTA(J1);
end
end
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