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C2 = 22
AL = 22
DF = 39
Z0 = 22
D = 0
1 FORMAT(1 F8.2)
READ(1,1)(VK(J),J=1,40)
READ(1,1)(A(I),I=1,40)
NT2 = NT
DC 8 I = 1, NT2
8 FR(I) = DF(I-1)
DC 9 I = 1, NT2
9 AI(I) = 4 * DC / FR(I) / D + 42 / 10.44 ( )
DC 12 I = 1, NT2
DC 10 J = 1, 39
IF(AI(I) * CE * A(J) .AND. AI(I) .LT. A(J+1)) GOTO 11
10 CONTINUE
11 VK(I) = VK(J) + (VK(J+1) - VK(J)) * (AI(I) - A(J)) /
  * (A(J+1) - A(J))
12 CONTINUE
S1 = 1.414 * D + D / 4.
DC 30 I = 1, 30
IF(K=2) C(1,3,2,3)
C 301 SEMNAL DE EXCITATIE: SIN N=1
READ(1,1)(VC(I),I=1,N)
READ(1,1)(VU(I),I=1,N)
N3 = 89
DC 903 I = 1, N3
903 VX(I) = VU(I)
CALL CORR(VX,N3)
DC 909 I = 1, N3
909 VU(I) = VX(I)
WRITE(1,55)
550 FORMAT(1 // 10), 'SEMNAL DE EXCITATIE'1 SIN''
C 302 CONTINUE
C SEMNAL DE EXCITATIE: DREPTUNG-IJAR
READ(1,1)(VC(I),I=1,N)

N3 = 24
DC 901 I = 1, N3
901 VC(I) = VC(I) / 1.25
READ(1,1)(VU(I),I=1,N)
N3 = 47
DC 904 I = 1, N3
904 VX(I) = VU(I)
CALL CORR(VX,N3)

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DC 910 I=1, N3
910 VU(I)=VU(I)
WRITE(1,1551)
551 FORMAT(1//10), 'SEMNAL DE EXCITATIE"DREFTUNGHI"')
303 CONTINUE
C SEMNAL DE EXCITATIE: SIN N=3
READ(1,1)(VU(I),I=1,N)
READ(1,1)(VU(I),I=1,M)
N3=122
N4=N3-1
VU(N3)=1
DC 918 I=1, N4
918 VU(I)=VU(I+1)
DC 905 I=1, N3
905 VX(I)=VU(I)
CALL CEF(VX,N3)
DC 911 I=1, N3
911 VU(I)=VU(I)
552 WRITE(1,1552)
552 FORMAT(1//10), 'SEMNAL DE EXCITATIE"3 SIN"')
304 CONTINUE
WRITE(1,1553)
553 FORMAT(1//10), 'GRAFICE SEMNALE DE INTRARE'//10X, 'CURENT DE
EXCITATIE'//10X, '4 TEASILNE ECCU'
DC 28 I=1, NT
28 VU(I)=VU(I)+10.44(-3)
VU(I)=VU(I)+10.44(-3)
DC 201 I=1, N
201 VAR1(I)=C(I)
VAR2(I)=L(I)
NR=N
CALL GRAF(VAR1,VAR2,NR)
DC 4 I=1, NT
4 U(I)=VU(I)
V(I)=0.
NS=8
IND=1
CALL IFF FT(U,V,NS,IND)
DC 5 I=1, NT2
5 FRI(I)=C(I)
FRI(I)=V(I)
DC 6 I=1, NT
6 U(I)=V(I)
V(I)=0.
CALL IFF FT(U,V,NS,IND)
DC 7 I=1, NT2

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FRU(I)=CU(I)
FIU(I)=VI(I)
7 DC 13 I=2,NT2
X6(I)=2.*ATAN(2.*3.14159*FR(I)*Z/CO)
VRK(I)=2.*(VIK(I)/20.+2.*Z/4*FR(I))
CI(I)=CMPLX(FRI(I),FII(I))
CU(I)=CMPLX(FRU(I),FIU(I))
X1(I)=CI(I)/CU(I)
X3(I)=(FR(I)*CO-RO*CO)/(RO*CO+R2*(Z)*VRK(I)+RO*CO*X1(I)+S1
X3(I)=X3(I)+2.
13 AZA(I)=COS(CRT(X3(I)))
DC 800 I=2,NT2
AZA5=CAES(AZA(I))
IF(FRI(I).GE.0.) GC TC 801
IF(FRI(I).LT.0.) GC TC 802
801 F1=ATAN(FII(I)/FRI(I))
IF(F1.GE.0.) GC TC 850
F1=F1+2.*3.14159
850 CONTINUE
GC TC 803
802 F1=ATAN(FII(I)/FRI(I))+3.14159
IF(FRI(I).GE.0.) GC TC 804
IF(FRI(I).LT.0.) GC TC 805
804 F2=ATAN(FIU(I)/FRU(I))
IF(F2.GE.0.) GC TC 860
F2=F2+2.*3.14159
860 CONTINUE
GC TC 806
805 F2=ATAN(FIU(I)/FRU(I))+3.14159
806 CONTINUE
F3=F1-F2
IF(F3.GE.0.) GC TC 890
F3=F3+2.*3.14159
890 FAZ(I)=(F3+X6(I))/2.
FAZ(1)=FAZ(2)
F4=FAZ(I)-FAZ(I-1)
F4=ABS(F4)
IF(F4.LT.1.5) GC TC 880
FAZ(I)=FAZ(I)-3.14159
880 CONTINUE
BR=CCS(FAZ(I))
BI=SIN(FAZ(I))
800 AZA(I)=CMPLX(BR,BI)*AZA5
IP=NT2-1
DC 14 I=1,IP
X2(I)=CMPLX(L(X2(I)),AZA(I+1))
VR(I)=REAL(X2(I))

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CM(I)=2.14159*FR(I+1)*10.44*(-)
CMC(I)=(FLX(I),CM(I))
C(I)=(A1*CMC(I)+AC)/(((B3*CMC(I)+B2)*CMC(I)+
*B1)*CMC(I)+1)
600  VAR1(I)=(REAL(C(I))-REAL(X2(I)))/CABS(AZA(I+1))*100.
558  VAR2(I)=(AIMAG(C(I))-AIMAG(X2(I)))/CABS(AZA(I+1))*100.
WRITE(10,558)
FORMAT(10,10X,'GRAFIC ERGAPE ESTIMARE'/10X,'*REAL(ERGAPE)'/10X
+IMAG(ERGAPE)')
CALL GRAF(VAR1,VAR2,NR)
IF(K=2) GOTO 307
305  DO 306 I=2,NT2
306  AZA1(I)=ABS(AZA(I))
99  WRITE(10,99)
FORMAT(10,10,'CK')
VMINI=AZA1(1)
DO 101 I=1,40
IF(VMINI.LE.AZA1(I)) GO TO 101
101  VMINI=AZA1(I)
CONTINUE
104  DO 104 I=2,NT2
AZA1(I)=AZA1(I)/VMINI
WRITE(10,99)
VMAX1=AMCDU(20)
DO 730 I=2,40
IF(VMAX1.GE.AMCDU(I)) GO TO 730
730  VMAX1=AMCDU(I)
CONTINUE
WRITE(10,99)
DO 731 I=2,NT2
731  AMCDU(I)=AMCDU(I)/VMAX1
WRITE(10,99)
GO TO 306
306  DO 306 I=2,NT2
306  AZA2(I)=ABS(AZA(I))
VMINI=AZA2(1)
DO 102 I=1,40
IF(VMINI.LE.AZA2(I)) GO TO 102
102  VMINI=AZA2(I)
CONTINUE
DO 105 I=2,NT2
105  AZA2(I)=AZA2(I)/VMINI
VMAX1=AMCDU(20)
DO 740 I=2,40
IF(VMAX1.GE.AMCDU(I)) GO TO 740
740  VMAX1=AMCDU(I)

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740 CONTINUE
    DC 741 =2,NT2
741 AMCC2(I) = AMCC1(I)/VMAX1
    GC TO 317
307 DC 307 =2,NT2
337 AZA3(I) = ABS(AZA(I))
    VMINI1 = AZA3(I)
    DC 103 =1,40
    IF (VMINI1 .LE. AZA3(I)) GO TO 103
103 CONTINUE
    DC 106 =2,NT2
106 AZA3(I) = AZA3(I)/VMINI1
    VMAX1 = AMCC1(I)
    DC 750 =2,40

    IF (VMAX1 .GE. AMCC1(I)) GO TO 750
    VMAX1 = AMCC1(I)
750 CONTINUE
    DC 751 =2,NT2
751 AMCC3(I) = AMCC1(I)/VMAX1
300 CONTINUE
    NR = NT2
    VAR1(I) = .
    VAR2(I) = .
    DO 313 =1,3
    WRITE(I) = 1,3,9)
559 FORMAT(/,10X,'GRAFICE ERORI PENDERATE'/10X,'+GRAFIC PARAMET
    *CALIBRAR')
    IF (K-2) 15,316,317
315 DC 315 =2,NT2
    VAR3(I) = (AZA1(I)*AMCC1(I)+AZA2(I)*AMCC2(I)+AZA3(I)*AMCC3(I))
    +/(AMCC1(I)+AMCC2(I)+AMCC3(I))
310 VAR1(I) = (AZA1(I)/VAR2(I)-1.)*10.
    WRITE(I) = 1,560)
560 FORMAT(/,10X,'MERCARE PENDERATA'2 SIN'')
    CALL GRF F(VAR1,VAR2,NE)
    GC TO 311
316 DC 316 =2,NT2
311 VAR1(I) = (AZA2(I)/VAR2(I)-1.)*10.
    WRITE(I) = 1,561)
561 FORMAT(/,10X,'MERCARE PENDERATA'2 EPTUNGHI'')
    CALL GRF F(VAR1,VAR2,NE)
    GC TO 317
317 DC 317 =2,NT2
312 VAR1(I) = (AZA3(I)/VAR2(I)-1.)*10.
    WRITE(I) = 1,562)
562 FORMAT(/,10X,'MERCARE PENDERATA'3 SIN'')

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CALL
GC CONTIN
STOFF
END

GR 313 F(VAR1,VAR2,NE)

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SUBROUTINE GRAF (VAR1, VAR2, NR)
DIMENSION VAR1(NR), VAR2(NR)
REAL LINE(101), STEA, PLUS
DATA LINE, PLUS / 10, 0.4 /
WRITE (1) LINE, 1)
1 FORMAT (10I5, 110(' '))
VMAX1 = VAR1(1)
VMIN1 = VAR1(1)
VMAX2 = VAR2(1)
VMIN2 = VAR2(1)
DO 2 I = 1, NR
VMAX1 = AMAX1(VMAX1, VAR1(I))
VMIN1 = AMIN1(VMIN1, VAR1(I))
VMAX2 = AMAX2(VMAX2, VAR2(I))
VMIN2 = AMIN2(VMIN2, VAR2(I))
XMAX1 = ABS(VMAX1)
XMIN1 = ABS(VMIN1)
XMAX2 = ABS(VMAX2)
XMIN2 = ABS(VMIN2)
YMAX1 = AMAX1(XMAX1, XMIN1)
YMAX2 = AMAX2(XMAX2, XMIN2)
DO 3 I = 1, 7
IF (I-7) 6, 6, 7
WRITE (1) I, YMAX1, YMAX2
3 FORMAT (10I5, 'CONTINUARE')
CONTINUE
CALL CLEAR(1)
L1 = (VAR1(1) + YMAX1) / YMAX1 + 1
L2 = (VAR2(1) + YMAX2) / YMAX2 + 1
LINE(L1) = STEA
LINE(L2) = PLUS
WRITE (1) I, VAR1(I), VAR2(I), LINE
5 FORMAT (10I5, 2(1X, ES.2), 2X, 10I5)
CONTINUE
RETURN
END

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