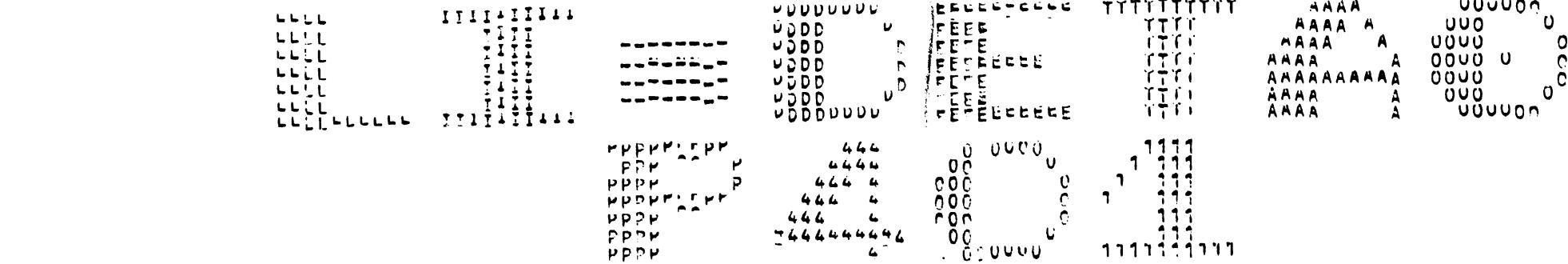


WEDDING



JVB WEDDING:PAUL+PNI-LI=DETAU
COMPILE FURTRAN
FURTRAN TAPLE

WIEBE
FORTRAN 0x..0u

WIEBE 1920/82 08.57.17

```

PROGRAM PENTRU PRELUCRAREA DIAGRAMELUR INDICATE P = F(ALFA) ALE
MOTOPROPULOR IN VEDEREA STABILITATII CORELATIFI DATELUR EXPERIMENTALE
CU LECATA DE ARDERE A LUI WIEBE.

DIMENSION ITER(100)
INTEGER TABLUT(10),NRDIAGR(1),ALFA,ALFATINIT
REAL TABPS(94),TABP(96),TAB(95),KAPAKAPALYS,MU,TABXU(95),
MIUMAX,TABXUT(95),MC,XE(65),LPDB,LAMBDA,LG,LAMBDA,NI,NAZ,NPA,M,
A,ALFA
---- TESTE/SURIE DATE INITIALE ----
READ 101,TITLE,C,H,O,HI,MC,EPS,LPDB,VCA,V,A,V,LAMBDA,GAMA
PRINT 102,TITLE,C,H,O,HI,MC,EPS,LPDB,VCA,V,C,LAMBDA,GAMA
---- GENERARE TABEL PSI = F(ALFA) PT. 0 - 95 PA. CU PAS 1 RA ----
ALFA=0.
E1=0.0+1./
E2=1.0+1./LPDB
DO 1 I=1,96
ES=LPDB*(SIN(ALFA))
TABPS(I)=1.+E1*(E2-1)*COS(ALFA)+SIN(1.-E2*E1)/LPDB
1 ALFA=ALFA+E1-453/93
---- CALCUL EXPRESII CONSTANTE, INITIALIZARI ----
LOE(8,73)*C+8.*H-0)/.23
LPKIMD=L/28.05
GI=1.+LAMBDA*L0
NI=LAMBDA*LPRIMO
IF(MC.NE.0.) NI=NI+1./MU
NAI=NI*(1.+GAMA)
NPA=N+H/4.+0/52.
MIUMAX=NAI
CTTEV=C/(3392*NAI)
CTKAPAE=805+.0572/LAMBDA
CTXU=LAMRUA*(0*VAC/(.0427*EPS*112)
XUT=0
---- SCRIE REZULTATE INITIALE ----
PRINT 103,LO,LPKIMD,GI,NI,MIUMAX
---- TESTE DATELE DIAGRAMA P = F(ALFA) ----
READ 105,LO4,END=91 NRDIAGR,ALFATINIT,N,IPAS
READ 105,(TABP(I),I=1,N)
NRN=1
ITER=0.
---- INCEPE CALCUL ITERATIV AL USIMAX, INITIALIZARI ----
USIMAX=XUT
ITER=ITER+1
ALFA=ALFATINIT
XUT=0
DO 5 I=1,N
---- INCEPE CALCULUL PE UN INTERVAL, INITIALIZARI ----
      WIEBE 1920/82 08.57.17

```

```

APKIMD=0.01
ALFA=IPAS*(ALFA)+1
ALFA=IPAS*(ALFA+IPAS)+1
P=TABP(1)
P1=TABP(1+1)
PS1=TABPS(1)*ALFA
PSI1=TABPS(1)*ALFA
E1=(P1+PS1)*(PS1+PSI1)
E2=P1+PS1-P*PSI
E3=.5*(P1+P1)*(PS11-PS1)
ITER=ITER+1
---- ITERATII SUCCESIVE PENTRU STABILIZAREA XU ----
XU=XUT*MIN
ITER=ITER+1
MIUE=1.+(MIUMAX-1.)*((AUT+XU)/CUTMAX
TACT=F1/MU
KAPAK=259+70./((T-UT)*KAPAK*XU/CUTMAX
XPIMU=TC-XU*(E2/(KAPAK-1.2+E3))
---- TEST PENTRU STABILITATEA XU ----
IF(XU>XPIMU/XU-.2).GT.1.E-6, GO TO 10
---- SA TERMINAT STABILIZAREA XU PE INTERVAL.
STOCAREA VALOURELOR CALCULATE ----
XU=ALFA+IPAS
TACT=0.01
TABKAPAC=0*KAPAK
TABYU=0*XU
TABXU=0*VUT
5 ALFA=ALFA+IPAS
---- SA TERMINAT INTERVALLE.
TEST PENTRU STABILITATEA USIMAX ----
IF(XU>USIMAX/2.E-3).GT.1.E-6, GO TO 10
---- SA TERMINAT STABILIZAREA USIMAX.
INCEPE CALCULUL PARAMETRILOR M SI A DIN LEGEA WIEBE,
FOLOSIND METODA CELOR MAI MICI PATRATE, INITIALIZARI ----
SX=0.
SY=0.
```

```

      SXZ=0.
      SXY=0.
      PAS=IPAS
      ALFAC=PAS/2.
      NT=N-1
      ---- CALCUL SUME, PARAMETRII -----
      DO 6 T=1,NT
      XE(I)=TABXUT(I)/LSIMAX
      IF(XE(I)) GE 7,1 XE(I)=.999999
      X=ALOG(-ALOG(1.-XE(I)))-1.2326447
      Y=ALOG(ALFAC)
      WIEBE   19702/82  08.37.17
  FURIRAN UZ...U

```

2

```

      ALFAC=ALFAC+PAS
      SX=SX+Y
      SY=SY+Y
      SXZ=SXZ+X*Y
      SXY=SXY+Y*Y
      XE(N)=TABXUT(N)/LSIMAX
      M=(N1+SX-SX*SX)/(N1+SAU-SX*SX)-1.
      A=(SY-SX)/(M+1.)/N1
      ALFAZ=EXPA(A)
      ---- SORTIE REZULTATE INTERMEDIARE -----
      PRINT 106,LSIMAX,M,A,ALFAZ
      ---- CALCULE FINALE. GENERARE VALURI AC CU LERER WIEBE, CU PARAMETRITI CALCULATI ANTERIOR. COMPARARE CU DATELE EXPERIMENTALE.
      IOSTARE IN PACETE DE 20 DE INTERVALE.
      LTU=HT/(LAMBDA+LO)
      ALFA=ALFAINIT
      IALFA=IPAS(ALFA)+9
      VEVCA+TAPHSI(IALFA)
      ALFAC=PAS
      IAU
      ---- SPRIG CAD LABEL -----
      PRINT 107,NRDIAGR,ALFA,TABK(CIT1),Y
      DO 8 J=1,20
      1E+1
      ALFA=ALFA+PAS
      IALFA=IPAS(ALFA)+1
      VEVCA+TAPHSI(IALFA)
      XE(I)=TABXUT(I)
      XE1=1.-EXP(-6.*Y/(750*(ALFAU/ALFAZ)**M+1.))
      ALFAC=ALFAC+PAS
      UXE=(Y-1.-XE(I))/XE1*100.
      W0=6.007255*(M+1.)*(ALFAU/ALFAZ)**M*X1,-XE1)
      QUOTCTC=TABXUT(I)
      OUTCTC=TABXUT(I)
      ---- SORTIE VALORI CALCULATE -----
      PRINT 108,TABT(I),TABKAP(A(I)),TABXUT(I),TABXUT(I),XP,XE(I),XE1,UXE,
      W0,QUOTCTC,ALFA,TABP(I+1),Y
      ---- VESTE IN FAZ CA SA SE TERMINAT TRATAREA DIAGRAMEI -----
      IF(I,G,1) GO TO 2
      8 CUNTIE
      GO TO 7
      9 STOP
      101 FORMAT(10A4,2F7.0,2F7.0,2F7.0)
      102 FORMAT(10X,10A4//10X,"DATE INITIALE DE CALCUL://",
      -10X"COMPOZITIA COMBUSTIBILULUI":C,"F70.5",KG/KG CUMB"/,
      -10X":H,"F70.5",KG/KG COMB"/,
      -10X":O,"F70.5",KG/KG COMB"/,
      WIEBE   19702/82  08.37.17
  FURIRAN UZ...U

```

3

| | | | |
|--|---------|--------|--------------|
| -10A"PUTEREA CALORIFICA INFERTUARA: | M | :F70.2 | VCAL/KG// |
| -10A"MASA MOLECULARA (NUMAI LA MAS): | M | :F70.2 | -°// |
| -10A"DATE CONSTRUCTIVE:// | | | |
| -10A"RAPORTUL DE COMPRIMARE: | FDS | :F70.5 | -°// |
| -10A"RAPORTUL P/L BIELAI: | LDBR | :F70.5 | -°// |
| -10A"VOLUMUL CAMPKEI DE ARDERE: | VPA | :F70.2 | CMS// |
| -10A"ALTE MARIMI DATE:// | | | |
| -10X"VOL. SPECIF. LA SF. AUMISUNII: | VA | :F70.5 | M3/KG// |
| -10X"VOL. SPECIF. AL GALONOP ARSE: | VG | :F70.5 | M3/KG COMB// |
| -10A"COEFICIENTUL DE EXCEDE DE AER: | LAMBDA | :F70.5 | -°// |
| -10A"COEFICIENTUL DE GAZE REZIVUALE: | LAMA | :F70.5 | -°// |
| -10A"FORMAT(10X"MARIMI CALCULARE://) | | | |
| -10X"AFERUL MINIM NECESAR ARDERII: | LO | :F70.5 | KG/KG CUMB// |
| -10X"AFERUL "INT" NECESAR ARDERII: | LPRIMU | :F70.5 | KMOL/KG COMB |
| -/- | | | |
| -10A"GRUTATATEA INLARCATUINII PRIMASPEIE:U | | :F70.5 | KMOL/KG CUMB |
| -/- | | | |
| -10A"NP. KMOL LIU INCARU. PRIMASPEIE: NT | | :F70.5 | KMOL/KG CUMB |
| -/- | | | |
| -10A"COEFICIENTUL DE VARIATIE MOLARA: MAUMAX | | :F70.5 | -°// |
| -104 FORMAT(5A4,3I5) | | | |
| -105 FORMAT(10F5.2) | | | |
| -106 FORMAT(| | | |
| -10X"COEF. DE UTILIZARE A CALDURII: | LSIMAX | :F70.5 | -°// |
| -10X"PARAMETRUL N DIN LEGEA WIEBE: | M SIMAX | :F70.5 | -°// |
| -10X"PARAMETRUL A DIN LEGEA WIEBE: | A | :F70.5 | -°// |

```
108      -10X*PPEATA ARDIFI A 29.0W 07N COMB: ALFA7  'F10.5' PA'')
109      10X*FORMAT(10//10//10X*PPELUKAEA D4AGRAMEI 'DA4'//1
110      -10X, 'ALFA' R V I KAPA AD XUT   XP
111      - AE YE* DXE MU QU QUT'// -
112      -10X, ' PA VGF/UM2 UMS N KCAL/ KCAL//'
113      - " " -
114      -10X, ' KG KG '1//100,10,200,2)
115      108 FORMAT(29A,F8.2,0F8.5,F8.1,F0.5,2E0.2/10X,I3*2E0.2)
116      END
```

MODULE FORMULA TYPE FONCTION IF=0 008046)

*** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = 0) 08.37.48

W&C DEC 1953

۱۲

VENTRUL DE CALCUL AL I.P.R. SISTEM PELLA V-250
CODE = 000 DATE = 17/02/82 1025
NAME = R.FIN AM = F401 PI = V003
DEB = 000050 MEM = 000150 FIN = 08H 37H 57S TIME = 00001800
END = 000000 LU = 000200 N = 00179 CYT = 00000

LINK

W+EBE174
AUCUNE ERREUR A L'EXECUTION DE LIENS

W4EBE175

EP

VENTRUL DE CALCUL AL 4. P. I. SISTEM PELEIX V-250
OPCIO W152E AM = 0403 MH = 0002 DATE = 17/02/82-030
N.DEB = 08H 0FM 01S H.FIN = 08H 39M 03S TIME = 00000671 CODE = 000
LDP = 00050 MEM = 00012 LO = 000008 IN = 00000 OUT = 00000
V0 = 01

RUN
STARTED

MOTOR MONOCILINDRUC 195

DATE INITIALE DE CALCUL:

COMPOZITA COMBUSTIBILULUI: CHU
100% UUUU KG/KG CUM
12600 KG/KG CUMB
10400 KG/KG CUMB

PUTEREA CALORIFICA INFERIORA: H_i 10874,86 KJAL/KG

MASA MOLECULARA (NUMAR LA MASĂ): M_w ,UU -

DATE CONSTRUCTIVE:

RAZORUL DE COMPRIMARE: EPS 20,00000 -

RAZORUL R/L BIELAS: EBD 57580 -

VOLUMUL CAMEREI DE ARDERE: V_c 2,90 CM³

DATE MARIME DATE:

MAZ. SPECIF. LA SF. AUMISIUNII: V_A 1,0577 M³/KG

MAZ. SPECIF. AL GAZELUR ARDE: V_G 1,1917 M³/KG CUMB

SUFICIENTUL DE FACES DE AER: LAMBDA 1,70080 -

SUFICIENTUL DE GAZE RESIDUALE: GAMA 1,2800 -

PARAMETRE CALCULATE:

PERUL MINIM NECESSAR ARDERII: LU 14,02270 KG/KG CUMB

PERUL MINIM NECESSAR ARDERII: LMKMINU 29921 KMUL/KG CUMB

PROUTATUA INCARCATORII PROASPETE: G₁ 25,25990 KMUL/KG CUMB

HR. KMOL DE INCARC. PROASPATA: N_I 1,7977 KMUL/KG CUMB

SUFICIENTUL DE VARSTIE MOLARA: M_{10MAX} 1,04059 -

ZONE. DE UTILIZARE A CALDURII: U_{10MAX} 27500 -

ZARANTRUL M DIN LEGERA VIEDE: M 27104 -

ZARANTRUL A DIN LEGERA VIEDE: A 4,12400 -

ZURATO ARDERII A 44,4% DIN COMB: ALFAZ 72,12004 KM

RELATIONSHIP DIAGRAMS INDICATE PREDICTION

| PLATE | R | V | T | KAPA | NU | AUT | AP | PC | AE* | UNF | W0 | WU | QUT |
|-------|----------|--------|---------|---------|----------|--------|--------|--------|--------|------|----------|--------|---------|
| RA | "GFR/UMC | CMJ | K | - | - | - | - | - | - | % | - | KVALV | KCAL/KG |
| 6 | 42.90 | 43.00 | | | | | | | | | | | |
| 0 | 52.50 | 42.90 | 837.00 | 1.24800 | .00005 | .16000 | .00770 | .00005 | .10700 | 30.4 | 5.67704 | 31.914 | 31.919 |
| C | 60.00 | 43.00 | 7010.00 | 1.23240 | .00435 | .15000 | .00506 | .00452 | .21109 | 27.0 | 4.71579 | 40.584 | 72.501 |
| + | 74.70 | 44.10 | 7216.99 | 1.21870 | .01023 | .00089 | .00608 | .00150 | .30741 | 15.0 | 4.20120 | 53.047 | 125.548 |
| 0 | 79.00 | 45.04 | 1543.82 | 1.21200 | .00044 | .02734 | .00838 | .00072 | .34344 | 14.7 | 3.82704 | 31.972 | 127.521 |
| 0 | 84.00 | 47.00 | 1534.71 | 1.30657 | .00000 | .01747 | .01009 | .00070 | .47008 | 8.9 | 3.20809 | 43.547 | 200.868 |
| 70 | 82.00 | 50.07 | 1044.21 | 1.30440 | .04000 | .02500 | .01172 | .00021 | .53794 | 12.0 | 4.98705 | 19.280 | 220.150 |
| 74 | 87.05 | 54.00 | 1720.61 | 1.30758 | .00000 | .02710 | .01300 | .00000 | .59777 | 4.0 | 2.02524 | 33.494 | 203.049 |
| 72 | 80.00 | 58.07 | 1822.54 | 1.29892 | .01084 | .00799 | .00532 | .00130 | .65050 | 5.1 | 2.00130 | 34.114 | 207.763 |
| 74 | 78.00 | 62.03 | 1712.71 | 1.29728 | .00000 | .00104 | .01695 | .00054 | .64640 | 2.0 | 2.01509 | 30.050 | 318.396 |
| 70 | 74.00 | 68.10 | 1488.51 | 1.29572 | .00102 | .02334 | .01853 | .00180 | .75678 | 2.7 | 1.75707 | 24.081 | 348.083 |
| 20 | 69.50 | 74.00 | 2037.54 | 1.29585 | .00050 | .05384 | .01931 | .00120 | .77197 | 2.4 | 1.023217 | 14.700 | 302.789 |
| 66 | 65.00 | 80.43 | 2052.42 | 1.29504 | .00440 | .04574 | .02046 | .00122 | .92025 | -2.1 | 1.023565 | 21.000 | 304.390 |
| 67 | 58.00 | 87.34 | 2055.17 | 1.29607 | .00169 | .00040 | .02006 | .00074 | .82935 | 1.3 | 1.71940 | 3.701 | 388.096 |
| 20 | 52.00 | 94.07 | 1449.30 | 1.29783 | -0.01572 | .04070 | .02025 | .00110 | .80255 | 4.9 | 1.00072 | -7.502 | 380.531 |
| 20 | 48.00 | 102.49 | 1456.54 | 1.29740 | .02447 | .01575 | .02089 | .00002 | .87270 | 4.7 | 1.01320 | 12.012 | 392.340 |
| 30 | 44.00 | 111.02 | 1449.87 | 1.29700 | .01023 | .05190 | .02131 | .00024 | .84077 | 4.7 | 1.00000 | 7.810 | 400.364 |
| 36 | 39.50 | 120.00 | 1411.52 | 1.29943 | -0.01070 | .02714 | .02103 | .00023 | .90530 | 7.0 | 1.00500 | -5.790 | 395.174 |
| 34 | 37.00 | 128.79 | 1888.32 | 1.29854 | .00008 | .05758 | .02146 | .00054 | .91840 | 4.6 | 1.00663 | 17.500 | 412.083 |
| 30 | 34.00 | 140.74 | 1843.44 | 1.29910 | .01102 | .00807 | .02225 | .00091 | .92973 | 4.6 | 1.00475 | 5.550 | 418.014 |
| 30 | 31.50 | 150.00 | 1872.59 | 1.29900 | .01007 | .07874 | .02251 | .00125 | .93953 | 4.7 | 1.02298 | 4.840 | 422.867 |

AKTIVITÄRERNA OCH GRÅMÅL INDICAT. MED (ALFA)

| ALFA | R | V | T | KATA | AU | XUT | XP | AE | XE* | UXE | WU | QU | QUT |
|------|---------|--------|---------|----------|---------|--------|--------|----------|--------|-----|--------|--------|---------|
| RA | DGR/UMG | UMG | K | - | - | - | - | - | - | % | - | VALS/ | CAL/ |
| | | | | | | | | | | | | %G | %G |
| 50 | 37.50 | 150.00 | 1072.12 | 1.244401 | .002000 | .11120 | .02554 | .99401 | .94748 | 1.4 | .00500 | 15;054 | 458;521 |
| 48 | 29.00 | 161.48 | 1085.14 | 1.249009 | .002021 | .25148 | .02386 | .99534 | .95528 | 0.0 | .37480 | 9.721 | 448.249 |
| 46 | 27.70 | 172.70 | 1086.51 | 1.249003 | .002041 | .25189 | .02438 | .97027 | .90157 | 1.5 | .47140 | 9.812 | 458.068 |
| 44 | 20.00 | 164.42 | 1079.97 | 1.244507 | .002082 | .20171 | .02403 | .90054 | .90644 | 2.0 | .60379 | 4.722 | 402.793 |
| 40 | 24.20 | 190.50 | 1080.67 | 1.300004 | .000670 | .20787 | .02479 | .99200 | .97700 | 2.2 | .20728 | 2.902 | 405.758 |
| 40 | 24.50 | 208.08 | 1080.81 | 1.300040 | .00070 | .27505 | .02497 | .9.00000 | .97508 | 2.0 | .17320 | 3.442 | 409.202 |
| 50 | 21.00 | 221.52 | 1039.81 | 1.300040 | .00070 | .27505 | .02497 | .9.00000 | .97508 | 2.0 | .17320 | 3.442 | 409.202 |

STOP