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C C
C DAVIS, ROBERT, APPLIED FORCE VERSUS RADIUS RATIO
  DIMENSION A1(30), A2(30), A3(30)
  DIMENSION DELTA(30), PC(30), F1(30)
1  READ, RO, HO, STRO, B
  READ, UNU, G
  READ, F, RING, STRAC
  DO 4 I=1,8
  READ, A1(I), A2(I), A3(I)
4  READ, DELTA(I), PC(I), F1(I)
  DO 40 I=1,8
  ALPHC = (52./3.)*A1(I)*A1(I)
  BETC = 16.*A1(I)*A3(I)
  GAMC = 4.*A3(I)*A3(I)
  RC = F1(I)*RO
  BAB1 = 2.*ALPHC*RC*RC+BETC
  EPSIC = SQRT(ALPHC*RC*RC*RC*RC+BETC*RC*RC+GAMC)
  ZEKE = SQRT(ALPHC)
  BILL = SQRT(GAMC)
  BAB2 = (BETC/(2.*ZEKE))+ZEKE*RC*RC
  COEF1 = (2.*3.14159/(3.*ZEKE))*STRO*(2.*A1(I)-3.*A2(I))
  IF(BETC)8,8,7
8  RIGH2 = 0.
  GO TO 9
7  RIGH2 = (BETC/(4.*ALPHC))*(LOG(BETC)-1.)
9  IF(BAB1)10,10,11
10 RIGH1 = 0.
  RIGH3 = 0.
  GO TO 12
11 RIGH1 = (BAB1/(4.*ALPHC))*(LOG(BAB1)-1.)
  RIGH3 = (0.5*RC*RC)*LOG(BAB1)
12 TERM1 = COEF1*(RIGH1-RIGH2-RIGH3)
  TERM2 = (0.5*3.14159*B*RC*RC*RC*RC)*(4.*A1(I)+A2(I))
  COEF2 = (4./3.)*3.14159*STRO
  RIGH4 = (7.*A1(I)*EPSIC)/(2.*ALPHC)
  IF(BAB2+EPSIC)14,14,15
14 BAB3 = 0.
  GO TO 16
15 BAB3 = LOG(BAB2+EPSIC)
16 BAB4 = BETC/(4.*ALPHC**1.5)
  RIGH5 = 7.*A1(I)*BAB4*BAB3

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FIG. 22 COMPUTER PROGRAM FOR EVALUATING APPLIED FORCE ON WAFER