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C C
C DAVIS, ROBERT, GENERAL STRESS DISTRIBUTION IN SOLID WAFERS
  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=1,2
  READ, A1(I), A2(I), A3(I)
4  READ, DELTA(I), PC(I), F1(I)
  DO 40 I=1,2
  HC = HO-DELTA(I)/2.
  Z = 0.-HC
6  Z = Z+HC
  RC = RO*F1(I)
  R1 = RC
7  RA1 = RO+A1(I)*R1*R1*R1
  R11 = RA1+3.*A2(I)*Z*Z*R1+A3(I)*R1
  R12 = ABS(R11-R1)
  IF(R12-0.001)9,9,10
10 R1 = (R11+R1)/2.
  GO TO 7
9  R = 0.-R1/10.
8  R = R+R1/10.
  ALPHA = (52./3.)*A1(I)*A1(I)
  BLU1 = 12.*A1(I)*A2(I)+9.*A2(I)*A2(I)+16.*A1(I)*A1(I)
  BETA = (4./3.)*(BLU1*Z*Z+12.*A1(I)*A3(I))
  BETAP = (8./3.)*BLU1*Z
  BLU2 = 3.*A2(I)*Z*Z+A3(I)
  GAMA = 4.*BLU2*BLU2
  GAMAP = 48.*A2(I)*BLU2*Z
  EPSI = SQRT(ALPHA*R*R*R*R+BETA*R*R+GAMA)
  EPSI1 = SQRT(ALPHA*R1*R1*R1*R1+BETA*R1*R1+GAMA)
  GIRL1 = 2.*ALPHA*R*R+BETA
  GIRL2 = 2.*ALPHA*R1*R1+BETA
  ZEKE = SQRT(ALPHA)
  DOG1 = GIRL1+2.*ZEKE*EPSI
  DOG2 = GIRL2+2.*ZEKE*EPSI1
  COEF1 = STRO*(2.*A1(I)-3.*A2(I))/(3.*ZEKE)
  DOG3 = DOG1/DOG2
  IF(DOG3)12,12,13

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FIG. 23 COMPUTER PROGRAM FOR DETERMINING STRESS DISTRIBUTION IN WAFER