

PROGRAM angle

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C=====
C   THIS PROGRAM CALCULATES epsilon
C=====
  REAL wmn, wmx, w, gmx, gmn
  * , epsinf, wp, gp, wto(12), s(12), g(12)
  COMPLEX eps
  INTEGER i, j, nw, nph
  read(*,*) epsinf, wp, gp
  READ(*,*) nph
  READ(*,*) (wto(i), i=1, nph)
  READ(*,*) (g(i), i=1, nph)
  READ(*,*) (s(i), i=1, nph)
  READ(*,*) wmn, wmx, nw
  gmx=log10(wmx)
  gmn=log10(wmn)
  DO 11 I=1, nw
    w=10**(gmn+(I-1)*(gmx-gmn)/nw)
    eps=epsinf
    DO 12 J=1, nph
      eps=eps+s(j)*wto(j)**2/
  *   (wto(j)**2-w*cplx(w, g(j)))
12   CONTINUE
      eps=eps-wp**2/(w*(w+cplx(0., gp)))
      write(*,*) w, real(eps), aimag(eps)
11   CONTINUE
  END
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