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PROGRAM pscor
*****
* corrects s and p reflectivity or transmission data files for nonideal
* properties of the polarizer. A frequency dependency of the ratio
* T(wrong polarization)/T(correct polarization) should be provided.
* Make sure that all three input files have the same set of x-values.
* The program lump should be used to ensure this.
*****
  REAL X(100000),e1,e2,pi,phi,csp2,snp2,rp(100000),rs(100000)
  *      ,rpp,rss,f(100000)
  CHARACTER*40 flinp,flins,flf,flss,flpp
  INTEGER I,mm
  read(*,'(a40)') flins
  read(*,'(a40)') flinp
  read(*,'(a40)') flf
  read(*,'(a40)') flss
  read(*,'(a40)') flpp
  OPEN(23,FILE=flins)
  OPEN(24,FILE=flinp)
  open(15,file=flf)
  OPEN(13,FILE=flss)
  OPEN(14,FILE=flpp)
  mm=100000
  do 10 i=1,mm
    READ(15,*,END=11) X(i),f(i)
10  continue
11  mm=i-1
    do 20 i=1,mm
      READ(23,*) X(i),rs(i)
20  continue
    do 23 i=1,mm
      read(24,*) x(i),rp(i)
23  continue
    do 30 i=1,mm
      rpp=(rp(i)-f(i)*rs(i))/(1.-f(i))
      rss=(rs(i)-f(i)*rp(i))/(1.-f(i))
      write(13,*) x(i),rss
      write(14,*) x(i),rpp
30  continue
    close(23)
    close(24)
    close(13)
    close(14)
    close(15)
    close(17)
  END

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