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PROGRAM etotau
*****
* Conversion of dielectric functions to *
* frequence dependent 1/tau* and plasmafrence squared. *
* from standard input it reads:
* input filename
* epsilon infinity
* the input file must have the format x eps1 eps2 *
*****
REAL X(100000),e1,e2,gam,nup2,epsinf
complex epsil(100000),einv
INTEGER I,mm
character*40 flin
mm=100000
read(*,'(a40)') flin
read(*,*) epsinf
open(24,file=flin)
do 10 i=1,mm
  READ(24,*,END=11) X(i),e1,e2
  epsil(i)=cmplx(e1,e2)
10 continue
11 mm=i-1
do 25 i=1,mm
  einv=1/(epsinf-epsil(i))
  nup2=x(i)**2/real(einv)
  gam=x(i)*aimag(einv)/real(einv)
  write(*,*) x(i),gam,nup2
25 continue
END

```