

ucnaicgv (usercode_Nal_CG-volume) をシンプル体系にした版のファイル構成とその中身

ucnaicgv.f

```

!*****
!***** KEK, High Energy Accelerator Research *
!** u c n a i c g v _ b a s e ** Organization *
!***** EGS5.0 USER CODE - 09 Oct 2015/1430 *
!*****
!* This is a general User Code based on the cg geometry scheme. *
!*****
! Original "ucnaicgv_vsp.f" by H. Hirayama and Y. Naito
! the simplified version by H. Iwase
!*****
implicit none
include 'include/egs5_h.f'
include 'include/egs5_bounds.f'
include 'include/egs5_brempr.f'
include 'include/egs5_edge.f'
include 'include/egs5_media.f'
include 'include/egs5_misc.f'
include 'include/egs5_thresh.f'
include 'include/egs5_uphot.f'
include 'include/egs5_useful.f'
include 'include/egs5_usersc.f'
include 'include/egs5_userxt.f'
include 'include/randomm.f'
include 'auxcommons/aux_h.f'
include 'auxcommons/edata.f'
include 'auxcommons/etaly1.f'
include 'auxcommons/instuf.f'
include 'auxcommons/lines.f'
include 'auxcommons/nfac.f'
include 'auxcommons/watch.f'
include 'auxcommons/geom_common.f' ! geom-common file
common/totals/depe,deltae,spec(3,50),maxpict
real*8 depe,deltae,spec
real*8 totke,rnnow,etot,esumt,wtin
integer maxpict
integer i,icases,idin,ie,ifti,ifto,ii,iiz,imed,ireg,isam,
* izn,nlist,j,k,n,ner,ntype,idum
character*24 medarr(MXMED)

!
! (1) Open files
open(6, FILE='egs5job.out',STATUS='unknown') ! General output
open(4, FILE='egs5job.inp',STATUS='old') ! CG input
open(39,FILE='egs5job.pic',STATUS='unknown') ! CG output

!
! (2) Initialization
call counters_out(0)
call block_set

!####(3) User setting parameters-1 (link PEGS5-material to EGS5 med)
nmed=1
medarr(1)='AL'

!####(4) User setting parameters-2
ncases = 1000 ! number of calculations
maxpict = 200 ! number of incident radiations in CG
chard(1) = 7.62d0 ! set character dimensions
chard(2) = 0.1d0
chard(3) = 0.5d0
chard(4) = 5.0d0

!
! (5) Some treatments
call geneout(1)
call media0(medarr) ! set media
call geneout(2)
call pegs5
nprec = 3
call cgcontrol(1,4,39)

```

```

!####(6) User setting parameters-3 (EGS options)
do i=1,nreg-1
if (med(i).ne.0) then
iphter(i) = 1 ! Switches for PE-angle sampling
iedgfl(i) = 1 ! K & L-edge fluorescence
iauger(i) = 0 ! K & L-Auger
iraylr(i) = 0 ! Rayleigh scattering
lpolar(i) = 0 ! Linearly-polarized photon scattering
incohr(i) = 0 ! S/Z rejection
iprofr(i) = 0 ! Doppler broadening
impacr(i) = 0 ! Electron impact ionization
end if
end do

!
! (7) Some treatments
call fluxinit0
emaxe = 0.D0 ! Autoset ecuts when emaxe=0
call hatch0
call geneout(3)
call geneout(4)
call cgcontrol(4,idum,idum)
call cgcontrol(5,idum,idum)
if(iwatch.gt.0) call swatch(-99,iwatch)

!----- (8) MAIN LOOP ----- MAIN LOOP
do i=1,ncases

call source(wtin) ! source generating here
irin = 0 ! set 0 for Autoset
call cgcontrol(2,idum,idum) ! Autoset irin
etot = ekein + iabs(iqin)*RM

call shower (iqin,etot,xin,yin,zin,uin,vin,win,irin,wtin) ! main calc

ncount = ncount + 1
if(iwatch.gt.0) call swatch(-1,iwatch)
end do

!----- MAIN LOOP END -----

!
! (9) Some treatments after calculation
if(iwatch.gt.0) call swatch(-88,iwatch)
call plotxyz(99,0,0,0.D0,0.D0,0.D0,0.D0,0,0.D0,0.D0)
call cgcontrol(6,idum,idum)
call counters_out(1)
write(6,*)'----- EGS5 sucessfully finished! -----'
end

!===== MAIN PROGRAM END =====

!####(10) Source description
subroutine source(wtin)
implicit none
include 'auxcommons/instuf.f'
include 'include/randomm.f'
real*8 wtin

iqin = -1 ! incident particle charge
ekein = 1.253 ! incident particle kinetic energy
xin = 0.0 ! source position of x
yin = 0.0 ! source position of y
zin = -5.0 ! source position of z
uin = 0.0 ! cos(thetax), thetax=angle to x-axis
vin = 0.0 ! cos(thetay), thetay=angle to y-axis
win = 1.0 ! cos(thetaz), thetaz=angle to z-axis
wtin = 1.0 ! weight

end

```

ucnaicgv.inp

```

ELEM
&INP IRAYL=1 /END
AL
AL
ENER
&INP AE=0.521,AP=0.010,UE=2.511,UP=2.0 /END
PWLf
&INP /END
DECK
&INP /END

```

ucnaicgv.data

```

RCC 1 0 0 0 0 0 5 5
RCC 2 0 0 -10 0 0 20 10
END
Z1 +1
Z2 +2 -1
Z3 -2
END
1 0 0

```