OUTPUT FROM THE FOKKER-PLANCK CODE CQL3D.

FOR QUESTIONS CONTACT
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CQL3D IS A PRODUCT OF NERSC/GA/EPFL/CompX
COLLABORATION.

DATE/TIME is 2017/08/04 15:48 56.107s

MACHINE:
special_calls.ne.enabled

PWD:
special_calls.ne.enabled, possibly use script

CQL3D VERSION: cql3d_fullFOW_170720.0

PGPLOT VERSION: v5.2.2

```
 &setup0
 ibox='ITER',
 iuser='YuP',
 ioutput=6,
 lrz=38
 noplots='enabled'
 mnemonic='ngen2_nmax6_hhfw500_ZOW_ZOW_iy102jx400_eni14MeV_ene
 special_calls='disabled'
 &end
**
 &setup
! For Fusion sightline diagnostics:
  fus_diag='disabled',
  nv_fus = 6 ! sight lines
  x_fus =  6*850.  ! detector position (cm)
  z_fus= -150.,-100.,-20.,20., 100., 150. ! detector position (cm)
  thet1_fus=6*90. ! 90deg is along equatorial plane
  thet2_fus=140.,160.,180.,180.,200.,220.
  fds_fus=0.5, ! step, as a fraction of radial bin width
 ! done - for Fusion sightline diagnostics
 acoefne=-1.80,-7.83,+051.57,-353.68
 acoefte=8.01,-13.60,+08.69,-114.59

 bnumb(1)=2.,  ! alpha fast ions,general
 bnumb(2)=-1., ! electron, general
 bnumb(3)=2.,  !alpha ions, thermalized
 bnumb(4)=1.,  ! D, maxwell
 bnumb(5)=1.   ! T, maxwell
 bnumb(6)=4.   ! Be-9, maxwell
 bnumb(7)=18.  ! Ar-40, maxwell
 bnumb(8)=-1., ! electron, maxwell

 bootst='enabled',
 nonboot=2,
 !bth=1.00e+3,
 !btor=1.032e+4,
 chang='noneg',
 colmodl(1)=1, !1, !3,  !-----------------
 colmodl(2)=3
 contrmin=1.e-12,
 dtr=100.e-3
 soln_method(1)=  'direct'  ! for full-fow will be reset to 'it3drv'
 soln_method(2)=  'direct'
 lfil=20   ! default is 30 (used by ilut)
 eegy(1,1,1,1)=0.,
 eegy(1,2,1,1)=2.,
 eegy(2,1,1,1)=0.,
 eegy(2,2,1,1)=6.,
 elecfld(0)=+1.e-4,
```

```
 elecfld(1)=+1.e-4,
 enloss(1)=200.,
 enmax=100.,
 enmin=05.,
 enorme=1000.  !------------
 enormi=14000. !------------
 eoved=.00,
 ephicc=1.,
 fds=.2,

 fmass(1)=6.6442e-24,  ! alpha fast ions,general
 fmass(2)=9.1095e-28,  ! electron, general
 fmass(3)=6.6442e-24,   !alpha ions, thermalized
 fmass(4)=3.3436e-24,   !  D, maxwell
 fmass(5)=5.0074e-24    !  T, maxwell
 fmass(6)=1.4965e-23    !=16428*me  ! Be-9
 fmass(7)=6.6360e-23    !=72847*me  ! Ar-40
 fmass(8)=9.1095e-28,   ! electron, maxwell

 gamaset=16.,  !Need to check out gamaset=0. coding
 gsla=270.,gslb=35.,
 iactst='disabled',
 idskf='disabled',
 idskrf='disabled',
 implct='enabled',
 ineg='enabled', !'disabled', !  'trunc_d', !
 iproelec='spline', !------------------------
 iprone=  'spline', !------------------------
 iprote=  'spline', !------------------------
 iproti=  'spline', !------------------------
 !iprozeff='spline', ! would not work for three ion species
 iprozeff='disabled', !---------------------
! irzplt(1)=1,
! irzplt(2)=2,
! irzplt(3)=3,
! irzplt(4)=4,
! irzplt(6)=6,
 irzplt(8)=8,
! irzplt(10)=10,
! irzplt(12)=12,
! irzplt(14)=14,
 irzplt(16)=16,
! irzplt(20)=20,
 irzplt(24)=24,
! irzplt(28)=28,
 irzplt(32)=32,
! irzplt(36)=36,
! irzplt(37)=37,
! irzplt(38)=38,
```

```
! irzplt(40)=40

  iy=102, !240, !-----------------------
  izeff='ion',
  jhirsh=99,
  jx=400, !---------------------------
! kfrsou=4   !YuP: no effect on results for fusion source simulations, af
  kfrsou=1 !2   !NOTE: need to change coding for fusion_src; use its owr
  kpress(2)='enabled',

  kspeci(1,1)='He',kspeci(2,1)='general',
  kspeci(1,2)='e', kspeci(2,2)='general',
  kspeci(1,3)='He',kspeci(2,3)='maxwell',
  kspeci(1,4)='D', kspeci(2,4)='maxwell',
  kspeci(1,5)='T', kspeci(2,5)='maxwell',
  kspeci(1,6)='Be',kspeci(2,6)='maxwell',
  kspeci(1,7)='Ar',kspeci(2,7)='maxwell',
  kspeci(1,8)='e', kspeci(2,8)='maxwell',

  lbdry(1)='conserv',  ! works now for full-FOW
! lbdry(1)='scale',
  lbdry0='enabled', ! (default)
  locquas='disabled',
  lossmode(1)='simplban'
  lossmode(2)='simplban',
  lz=80,
  machine='toroidal',
  manymat='disabled'
  meshy='fixed_y',
  mpwr=0.1, 1.00, 1.00, 1.00
  mx=3,
  nchec=1,
  ncoef=1,
  ncont=20,
  nen=30,
  netcdfnm='enabled',
  netcdfvecal='enabled',
  netcdfvecrf='enabled',
  netcdfvecc='enabled',
  netcdfvecs='all'
  ngen=2
  nmax=6, !4,
  noffel=10000,
  nonel=10000,
  nplot= 10,40,80,120,
  nplt3d=10,40,80,120,
  npwr=2.,2.,2.,2.,
  nrskip=0,
  nrstrt=1,
```

```
  nstop=40, !120,!-----------------
  numby=30,
  nv=7,
  partner='bramb',
  plt3d='enabled',
  pltd='enabled',
  pltdn='disabled',
  pltend='enabled',
! pltfvs='enabled',
  pltinput='enabled',
  pltmag=1.,
  pltpowe='last',
! pltprpp='enabled',
  pltrst='disabled',
  pltsig='enabled'
  pltstrm='disabled',
  pltvecal='disabled',
  pltvecc='disabled',
  pltvece='disabled',
  pltvecrf='disabled',
  pltvflu='disabled',
  pltvs='rho',
  plturfb='enabled', !'disabled',
  profpsi='disabled',
  psimodel='axitorus',
  qsineut='disabled',
  radmaj=700.,
  radmin=250.,
  radcoord='sqtorflx' ! default
  rd=300.,
! reden(1,0)=3.0e13
! reden(1,1)=0.3e13
! reden(2,0)=3.0e13
! reden(2,1)=0.3e13
! reden(3,0)=3.0e13
! reden(3,1)=0.3e13
  relativ(1)='enabled',   !-------------- alphas
  relativ(2)='enabled'    !-------------- e
  rfacz=1.,
  rmirror=7.5,
  rovera=1.e-2,
  roveram=0.00,
  rzset='enabled' !'disabled',
  softxry='disabled',
  syncrad='disabled',
  tandem='enabled',
  tauloss(1,1)=0.0, !.3,
  tauloss(2,1)=0.,
  tauloss(3,1)=0.,
```

```
 taunew='enabled',
 tbnd=.002,
! temp(1,0)=4.0
! temp(1,1)=0.1
! temp(2,0)=4.0
! temp(2,1)=0.1
! temp(3,0)=4.0
! temp(3,1)=0.1
 tfac=-1., !0.75,
 tfacz=1.,
 thet1=0.,0.1253,0.2527,0.3844,0.,0.,0.,
 thet2=0.,0.,0.,0.,0.9099,1.1012,-0.9099,
 thetd=0.0
 torloss(1)='disabled',
 veclnth=1.5,
 xfac=1.0 !0.1, !+.5,
 xlwr=.085,
 xmdl=.25,
 xpctlwr=.1,
 xpctmdl=.4,
 ylower=1.22,
 yreset='disabled',
 yupper=1.275,
 zmax=408.
 njene= 40
 ryain=       0.000000000  2.5641e-002  5.1282e-002  7.6923e-00
  1.5385e-001  1.7949e-001  2.0513e-001  2.3077e-001  2.5641e-
  3.0769e-001  3.3333e-001  3.5897e-001  3.8462e-001  4.1026e-
  4.6154e-001  4.8718e-001  5.1282e-001  5.3846e-001  5.6410e-
  6.1538e-001  6.4103e-001  6.6667e-001  6.9231e-001  7.1795e-
  7.6923e-001  7.9487e-001  8.2051e-001  8.4615e-001  8.7179e-
  9.2308e-001  9.4872e-001  9.7436e-001  1.0000e+000

 enein(1,1) = 40*1.e10  ! alphas, general
 enein(1,3) = 40*1.e10  ! alphas, Maxw.

! e, general (set to be same as e_Maxwellian) :
 enein(1,2)=   6.0000e+013  6.0000e+013  6.0000e+013  5.9997e+0
  5.9850e+013  5.9703e+013  5.9540e+013  5.9419e+013  5.9372e+
  5.9415e+013  5.9486e+013  5.9575e+013  5.9647e+013  5.9670e+
  5.9588e+013  5.9551e+013  5.9549e+013  5.9560e+013  5.9549e+
  5.9419e+013  5.9291e+013  5.9101e+013  5.8839e+013  5.8493e+
  5.7458e+013  5.6696e+013  5.5711e+013  5.4441e+013  5.2801e+
  4.7805e+013  4.3857e+013  3.5780e+013  2.0999e+013

! e, Maxw. (8 is the last species in the list):
 enein(1,8)=   6.0000e+013  6.0000e+013  6.0000e+013  5.9997e+0
  5.9850e+013  5.9703e+013  5.9540e+013  5.9419e+013  5.9372e+
  5.9415e+013  5.9486e+013  5.9575e+013  5.9647e+013  5.9670e+
```

```
  5.9588e+013  5.9551e+013  5.9549e+013  5.9560e+013  5.9549e+
  5.9419e+013  5.9291e+013  5.9101e+013  5.8839e+013  5.8493e+
  5.7458e+013  5.6696e+013  5.5711e+013  5.4441e+013  5.2801e+
  4.7805e+013  4.3857e+013  3.5780e+013  2.0999e+013

! D, Maxw. :
 enein(1,4)=   2.3841e+013  2.3848e+013  2.3867e+013  2.3897e+0
  2.3931e+013  2.3874e+013  2.3811e+013  2.3799e+013  2.3863e+
  2.4140e+013  2.4331e+013  2.4544e+013  2.4743e+013  2.4898e+
  2.5091e+013  2.5191e+013  2.5326e+013  2.5473e+013  2.5603e+
  2.5779e+013  2.5825e+013  2.5832e+013  2.5796e+013  2.5717e+
  2.5395e+013  2.5115e+013  2.4728e+013  2.4210e+013  2.3525e+
  2.1392e+013  1.9681e+013  1.6113e+013  9.5135e+012

! T, Maxw. :
 enein(1,5)=   2.3842e+013  2.3848e+013  2.3868e+013  2.3900e+0
  2.4081e+013  2.4170e+013  2.4272e+013  2.4380e+013  2.4491e+
  2.4723e+013  2.4842e+013  2.4963e+013  2.5086e+013  2.5212e+
  2.5462e+013  2.5579e+013  2.5683e+013  2.5775e+013  2.5853e+
  2.5957e+013  2.5974e+013  2.5962e+013  2.5913e+013  2.5822e+
  2.5468e+013  2.5176e+013  2.4781e+013  2.4255e+013  2.3560e+
  2.1406e+013  1.9688e+013  1.6115e+013  9.5147e+012

! Be-9, Maxw. :
 enein(1,6)=   8.5139e+011  8.5163e+011  8.5232e+011  8.5338e+0
  8.5521e+011  8.5459e+011  8.5256e+011  8.5033e+011  8.4989e+
  8.5218e+011  8.5647e+011  8.6206e+011  8.6889e+011  8.7649e+
  8.8359e+011  8.8913e+011  8.9297e+011  8.9601e+011  8.9961e+
  9.0440e+011  9.0966e+011  9.1430e+011  9.1793e+011  9.2061e+
  9.2224e+011  9.2248e+011  9.2119e+011  9.1837e+011  9.1380e+
  9.0687e+011  8.9687e+011  8.8307e+011  8.6458e+011  8.4011e+
  8.0765e+011  7.6391e+011  7.0284e+011  5.7540e+011  3.3974e+

! Ar-40, Maxw. :
 enein(1,7)=   8.5140e+010  8.5164e+010  8.5234e+010  8.5350e+0
  8.5728e+010  8.5995e+010  8.6315e+010  8.6677e+010  8.7062e+
  8.7459e+010  8.7868e+010  8.8288e+010  8.8715e+010  8.9146e+
  8.9586e+010  9.0034e+010  9.0487e+010  9.0929e+010  9.1344e+
  9.1718e+010  9.2045e+010  9.2324e+010  9.2546e+010  9.2696e+
  9.2757e+010  9.2713e+010  9.2540e+010  9.2213e+010  9.1698e+
  9.0948e+010  8.9906e+010  8.8496e+010  8.6617e+010  8.4135e+
  8.0850e+010  7.6442e+010  7.0310e+010  5.7548e+010  3.3978e+

! NOTE: Species#8 (e_Maxwellian is set few lines above)

 tein=         3.6608e+001  3.6592e+001  3.6520e+001  3.6343e+0
  3.5022e+001  3.4326e+001  3.3499e+001  3.2545e+001  3.1475e+
  2.9047e+001  2.7701e+001  2.6263e+001  2.4739e+001  2.3152e+
  1.9932e+001  1.8365e+001  1.6862e+001  1.5451e+001  1.4112e+
```

```
 1.1530e+001  1.0389e+001  9.3422e+000  8.4098e+000  7.5463e+
 6.0006e+000  5.3245e+000  4.7142e+000  4.1748e+000  3.7058e+
 2.9584e+000  2.5998e+000  1.4746e+000  1.0000e-001

tiin=         3.5910e+001  3.5907e+001  3.5895e+001  3.5850e+00
 3.4689e+001  3.3827e+001  3.2793e+001  3.1625e+001  3.0343e+
 2.7517e+001  2.6013e+001  2.4472e+001  2.2914e+001  2.1355e+
 1.8290e+001  1.6808e+001  1.5378e+001  1.4011e+001  1.2715e+
 1.0352e+001  9.2939e+000  8.3207e+000  7.4363e+000  6.6296e+
 5.2406e+000  4.6552e+000  4.1367e+000  3.6805e+000  3.2818e+
 2.6367e+000  2.3205e+000  1.3195e+000  1.0000e-001

 zeffin(1)= 40*2.0 ! not used in present setup
 elecin(1)= 40*1.e-5

 rya(1)= 0.025 0.050 0.075 0.100 0.125 0.150 0.175 0.200 0.225 0.25
 0.425 0.450 0.475 0.500 0.525 0.550 0.575 0.600 0.625 0.650 0.675
 0.825 0.850 0.875 0.900 0.925 0.950

 sigmamod='enabled'
 isigmas(1)=1,0,0,0 ![07/29/2016] now can calc. all 3 reactions with D
 mmsv=3
 fusion_src='enabled'
 iy_fus_src=240 !720 ! 3*240
!-----------------------------------------------------------
 fow(1)='disabled', ! 'full', ! 'hybrid', !  'full',  !
 fow(2)='disabled'
! mimic_zow='enabled',
 fow_loss='orb+gyro',  !'orb+gyro', !'orbit'
 fow_write='enabled'
 fow_read='enabled'
 outorb='Not-detailed' ! 'detailed' to save data for Matlab
! fow_ibc='enabled',
! fow_balance=1.d0
 nmu=200, !100 ! is enough
 npfi=200 ! 100 is enough
 nptsorb=30
 nsteps_orb=100000 ! Max.number of time steps for orbit integration
 &end
**
 &trsetup
 transp(1)='disabled', !-----------------------------enable
 transp(2)='disabled' ! for ZOW electrons
 &end
**
 &sousetup
 asor(1,1,1)=0.0e+13,asor(1,2,1)=0.0e+13
! noffso(1,1)=10000,noffso(4,2)=10000
 noffso(1,1)=10000,noffso(2,2)=10000
```

```
! nonso(4,1)=0,nonso(4,2)=0
! nonso(2,1)=0,nonso(2,2)=0
! nonso(1,1)=0,nonso(1,2)=0
 nso=1,
 nsou=10000,
 pltso='enabled',
 scm2(1,1)=.001,scm2(1,2)=10000.,
 sellm1(1,1)=1.,sellm1(1,2)=1.,
 sellm2(1,1)=1.,sellm2(1,2)=1.,
 sem1(1,1)=1600.,sem1(1,2)=0.,
 sem2(1,1)=.5,sem2(1,2)=25.,
 seppm1(1,1)=1.,seppm1(1,2)=1.,
 seppm2(1,1)=1.,seppm2(1,2)=1.,
 soucoord='disabled', !'polar',
 sthm1(1,1)=5.,sthm1(1,2)=0.,
 szm1(1,1)=0.,szm1(1,2)=0.,
 szm2(1,1)=1.e+5,
 szm2(1,2)=1.e+5
 knockon='disabled'
 komodel='th'
 flemodel='th_pol',
 jfl=150
 nkorfn=0,
 nonko=0
 noffko=10000
 soffvte=4.5
 isoucof=1
 faccof=0.5
 xlfac=+0.1,
 xllwr=.085,
 xlmdl=.25,
 xlpctlwr=.1,
 xlpctmdl=.4
 &end
**
 &eqsetup
 atol=1.e-8,
! bsign=-1.,
 bsign=+1.,
 ellptcty=0.,
 eqdskin='G_STEADY_EC1F_ITER_LR_01000.TXT'
 eqmod='enabled',
 eqpower=2,
 eqsource='eqdsk',
 eqsym='avg_zmag',
 fpsimodl='constant',
 methflag=10,
 nconteq='psigrid',
 rbox=92.,
```

```
 rboxdst=120.,
 rmag=166.,
 rtol=1.e-8,
 zbox=92.
 &end
**
 &rfsetup
 rdcmod='disabled'
 call_lh='disabled',
 call_ech='disabled',
 call_fw='disabled',
 lh='disabled',
 ech='disabled',
 fw='disabled',
! iurfl(1)='enabled', !'disabled'   !so no double application of linear damp
! iurfl(1)='disabled','enabled'   !so no double application of linear dampir
 iurfl(1)='disabled','disabled',
 iurfcoll(1)='damp_out','damp_out'
 nharms=11,1 ! alphas,e !Choose appropriately to cover the plasma cros
 nharm1= 9,0 ! alphas,e ! range:  nharm1(i) to nharm1(i)+(nharms(i)-
 nrfitr1=1000,
 nrfitr2=0,
 nrfitr3=1,
 nrfpwr=0,
 nrfstep1(1)=1000,
 nrfstep1(2)=1000,
 nrfstep2=000,
 nondamp=0
 noffrf(1)=100000,  100000
 nonrf(1)=0, 0
 nrf=0

 nrfspecies(1)=1,2      !--------------- alphas,e

 pwrscale(1)= 1.0 1.0 !one wave type: FW, so - one value needed?
 rfread='netcdf'
 rffile(1)='iter_ec1f_helicon.nc'
          'iter_ec1f_helicon.nc'

 rftype(1)='fw' 'fw'   !------------- for alphas and e
 nbssltbl=200000
 nurftime=0
!!! pwrscale1(1)=0.0,0.0,0.15433,0.37111,.64866,1.0,1.0
!!! urftime(1)=0.0,0.2,0.205,0.210,0.215,0.220,0.225
 scaleurf='enabled',
 urfdmp='firstd',
 urfmod='enabled',  !-----------------------------------
 urfrstrt='disabled',
 urfwrray='disabled',
```

```
 vlfmod='disabled',
 vlhmod='disabled',
 vparmax=.7956,
 vparmin=.1768,
 vprprop='disabled'
 &end
**
 &frsetup
 &end
```

PARAMETER VALUES

====> version = cql3d_fullFOW_170720.0
====> precursr = cql3d_fullFOW_170314.4
ngena is the max. # of general (time advanced) species
====> ngena =   4
nmaxa is the max. # of background Maxwellian species
====> nmaxa =   8

lza is the maximum number of z mesh points
====> lza =   128

lrza is the maximum number of radial flux surfaces
====> lrza =   128
analytic source routine parameters
nsoa is the number of sources per species.
====> nsoa =   3

nplota is max number of plot times for 2d and 3d plots.
====> nplota =   10
nbctimea is max number of points in arrays giving time dependent profile information.
====> nbctimea =   101
ndtr1a is maximum number of time step intervals dtr1().
====> ndtr1a =   10
nefitera is the max number of iterations permitted for electric field per time step (to obtain target current).
====> nefitera =   10

nmodsa is max number of wave modes or harmonics for a single mode. CHECK code, for values .ne. 3.
====> nmodsa =   155

PARAMETER VALUES

EQUILIBRIUM model parameters:
nnra,nnza give the Maximum size the eqdsk
====>NNRA =   257   ====>NNZA =   257
====>NCONTEQA =   129

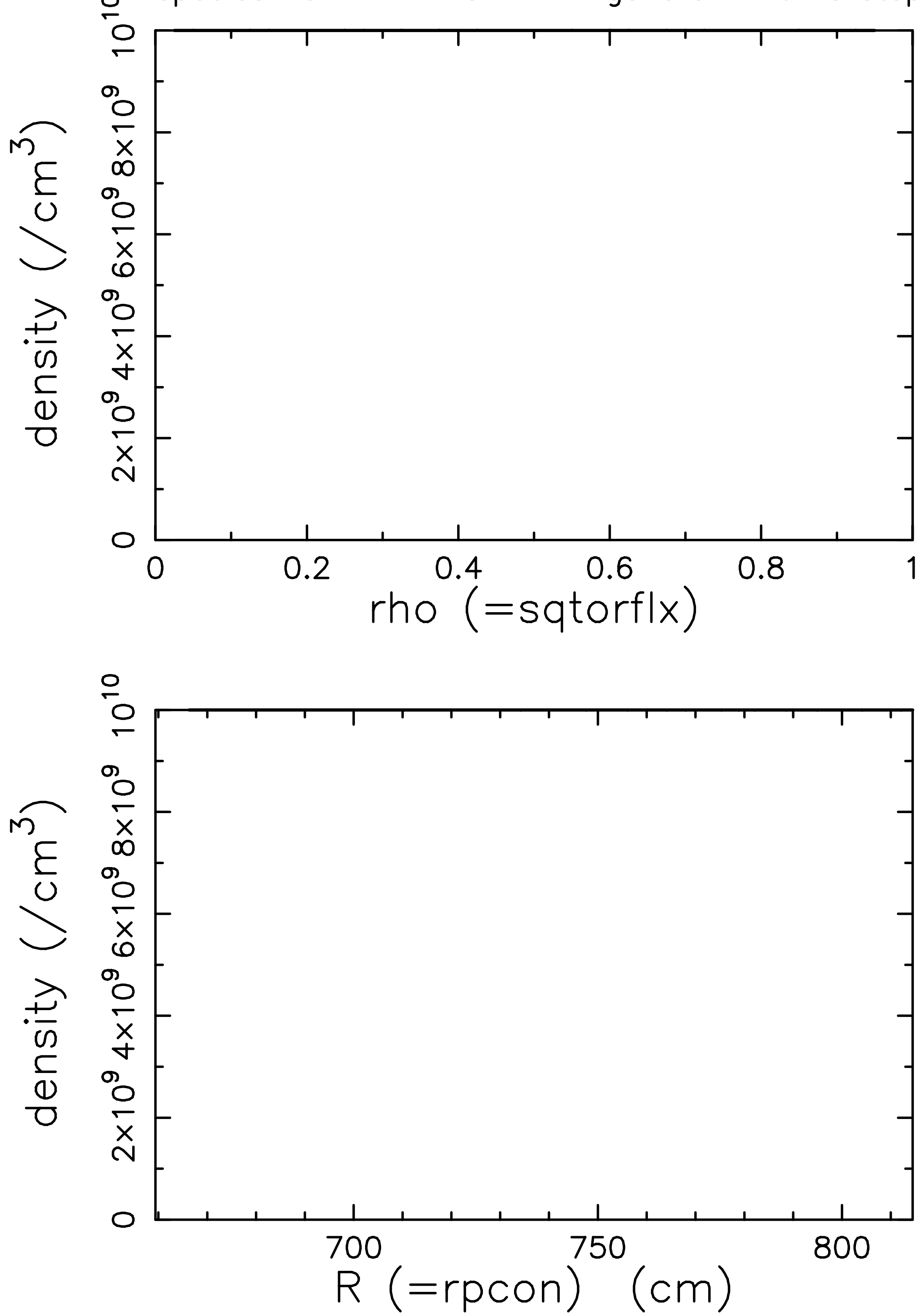
Urf (lower hybrid, fast wave, ech, ebw...) parameters:

====>NMODSA = 155

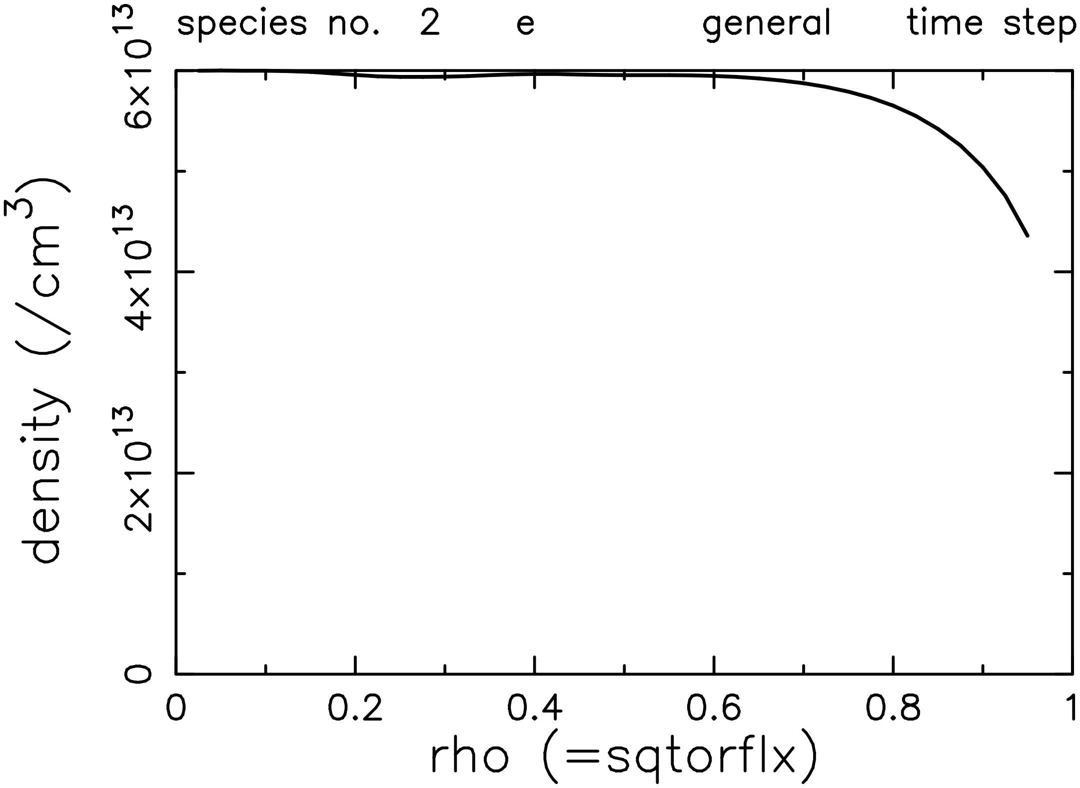
DENSITIES (/CC) OF SPECIES

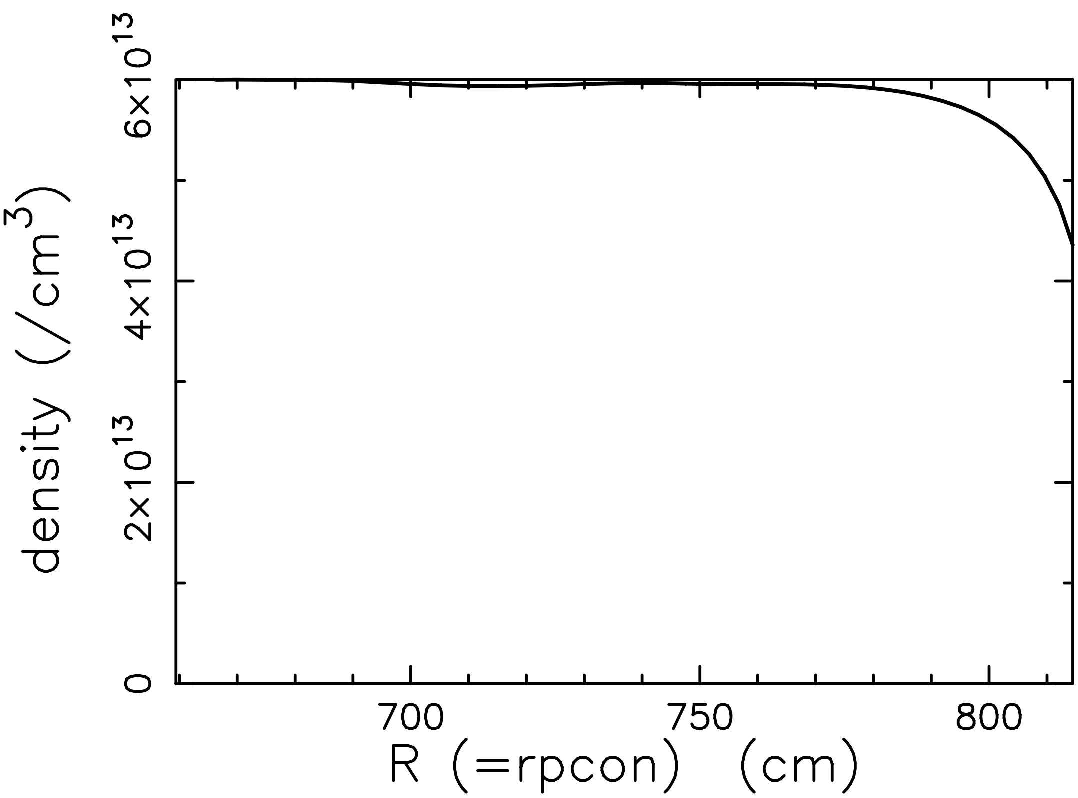
— n0; -- <n>_FSA; -.- n0/skipLossCone

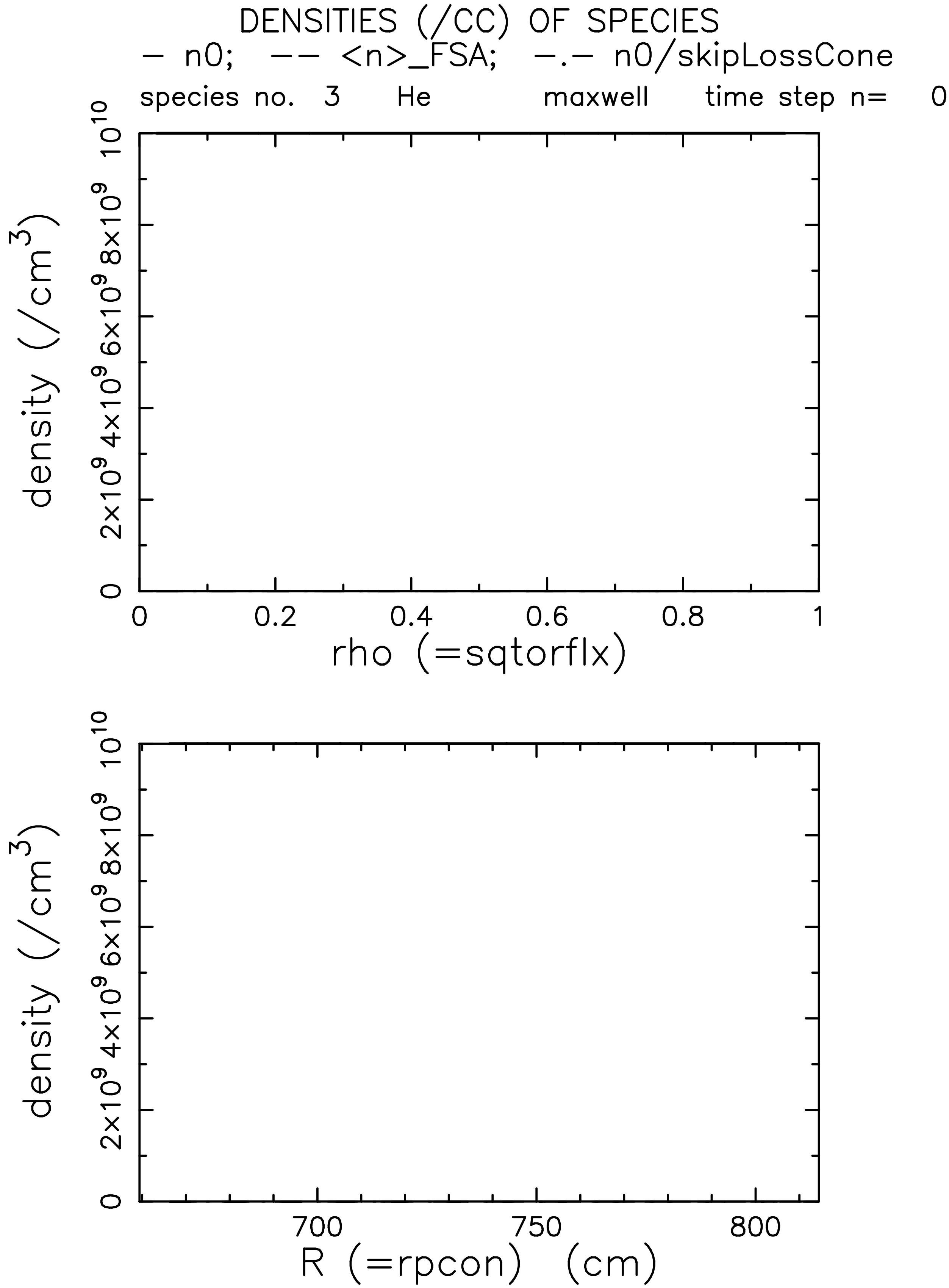
species no. 1 He general time step n= 0



DENSITIES (/CC) OF SPECIES
− n0; −− <n>_FSA; −.− n0/skipLossCone
species no. 2 e general time step n= 0



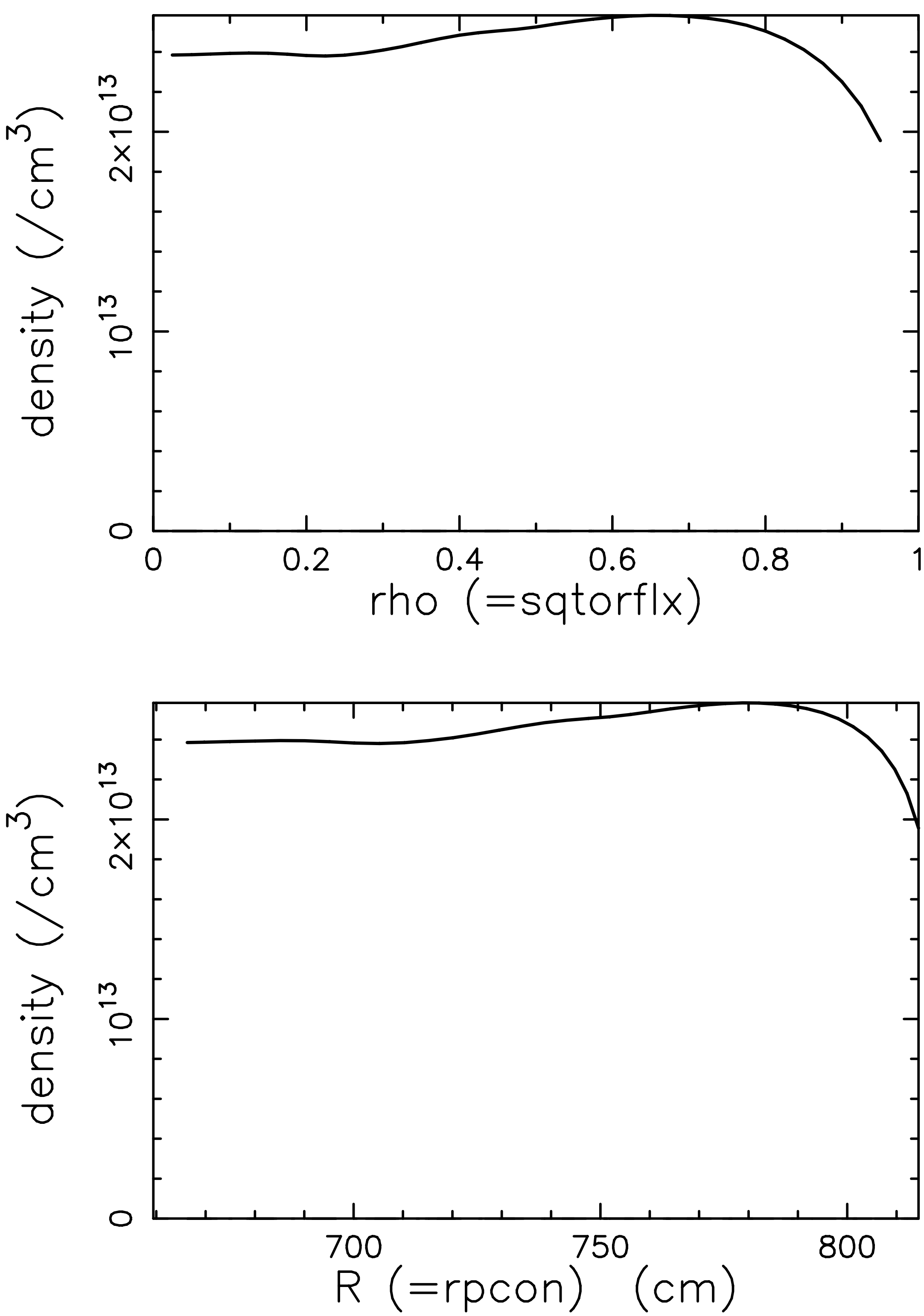



DENSITIES (/CC) OF SPECIES
– n0; –– <n>_FSA; –.– n0/skipLossCone
species no. 3 He maxwell time step n= 0
density (/cm3)
0
2x109
4x109
6x109
8x109
1010
0
0.2
0.4
0.6
0.8
1
rho (=sqtorflx)
density (/cm3)
0
2x109
4x109
6x109
8x109
1010
700
750
800
R (=rpcon) (cm)

DENSITIES (/CC) OF SPECIES

— n0; -- <n>_FSA; -.- n0/skipLossCone

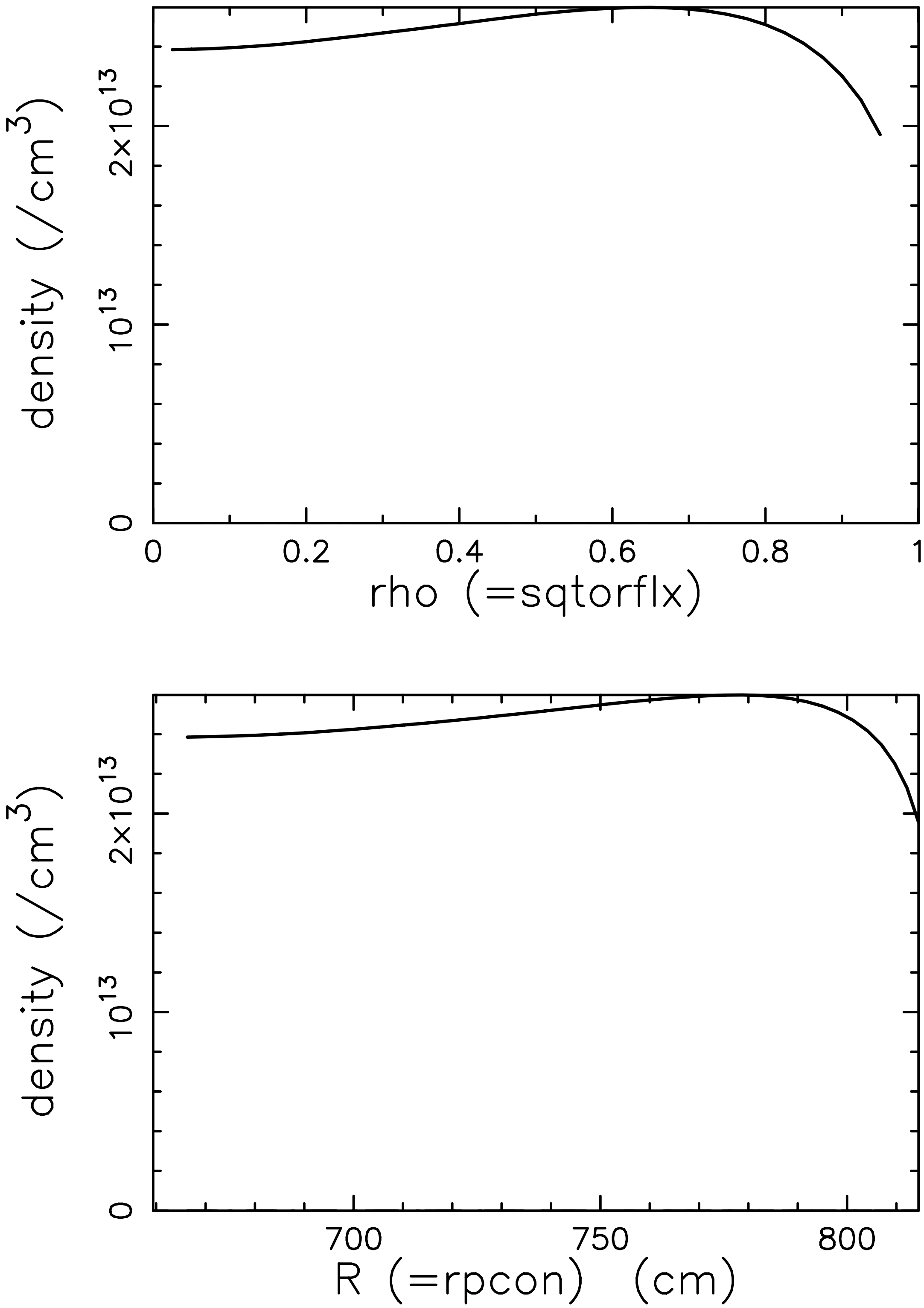
species no. 4 D maxwell time step n= 0



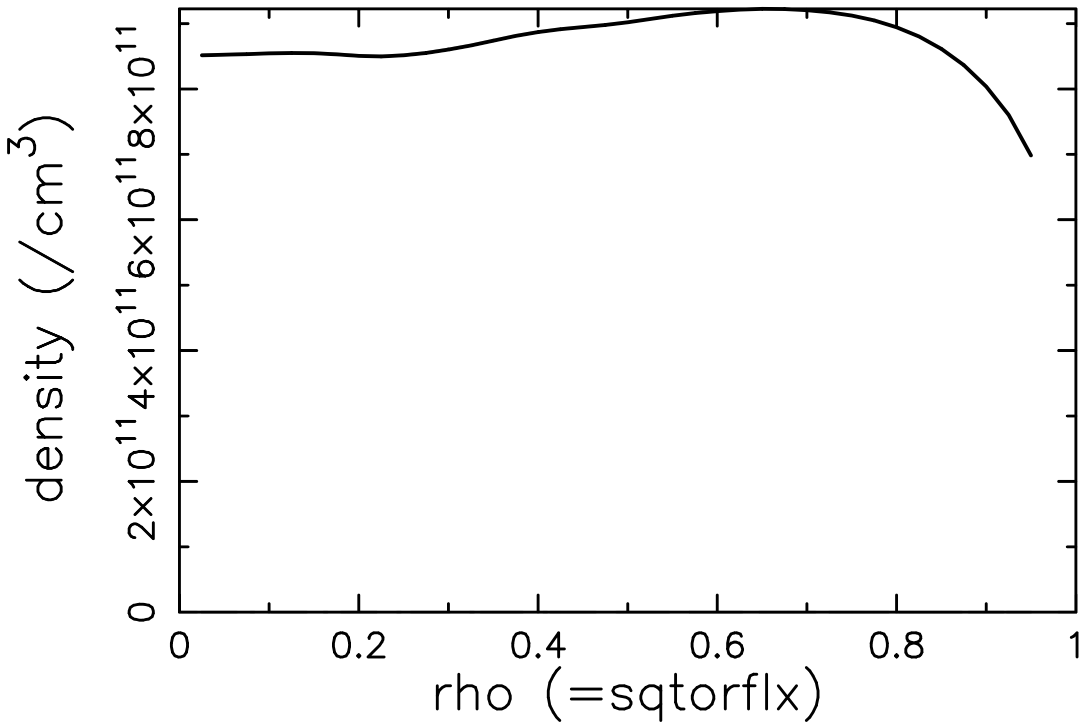
DENSITIES (/CC) OF SPECIES

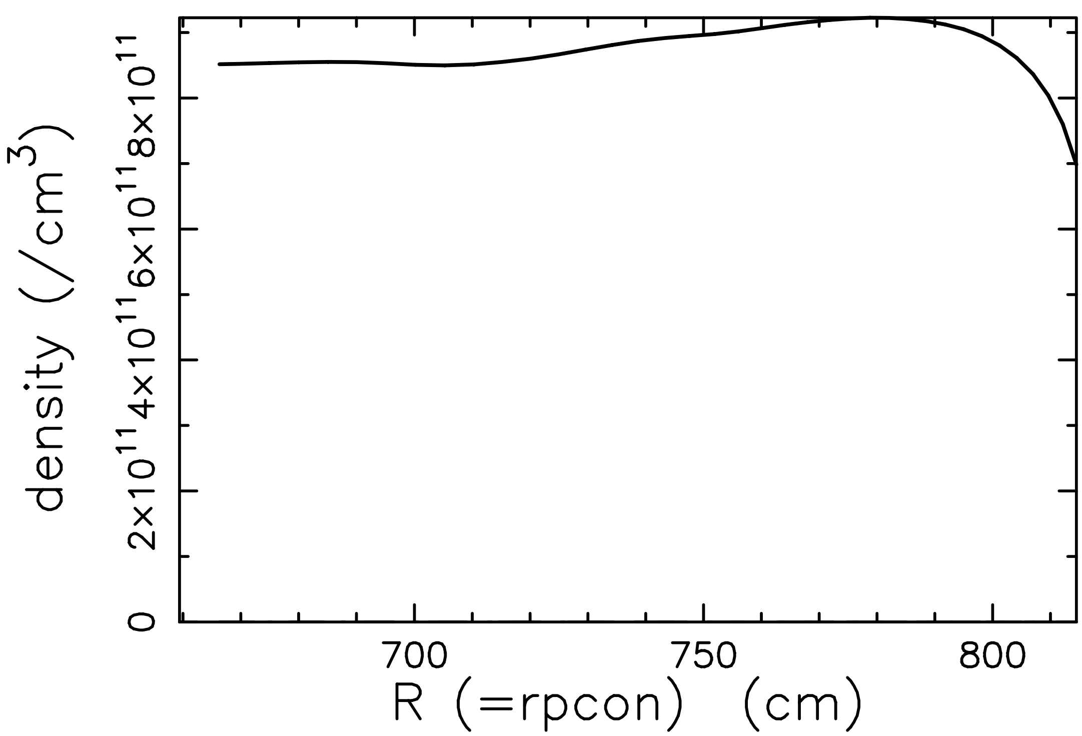
— n0; -- <n>_FSA; -.- n0/skipLossCone

species no. 5 T maxwell time step n= 0



DENSITIES (/CC) OF SPECIES
— n0; -- <n>_FSA; -.- n0/skipLossCone
species no. 6 Be maxwell time step n= 0

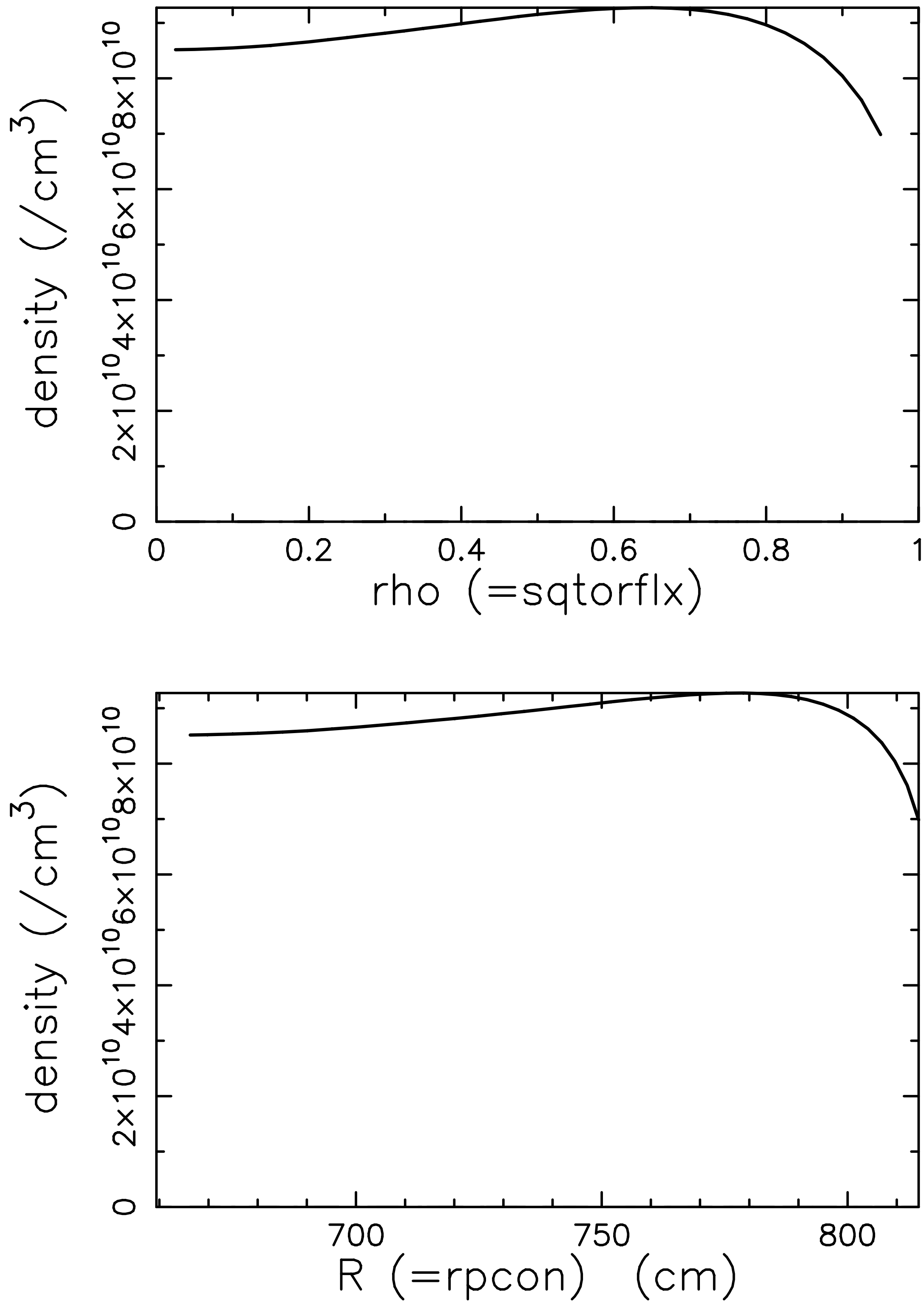


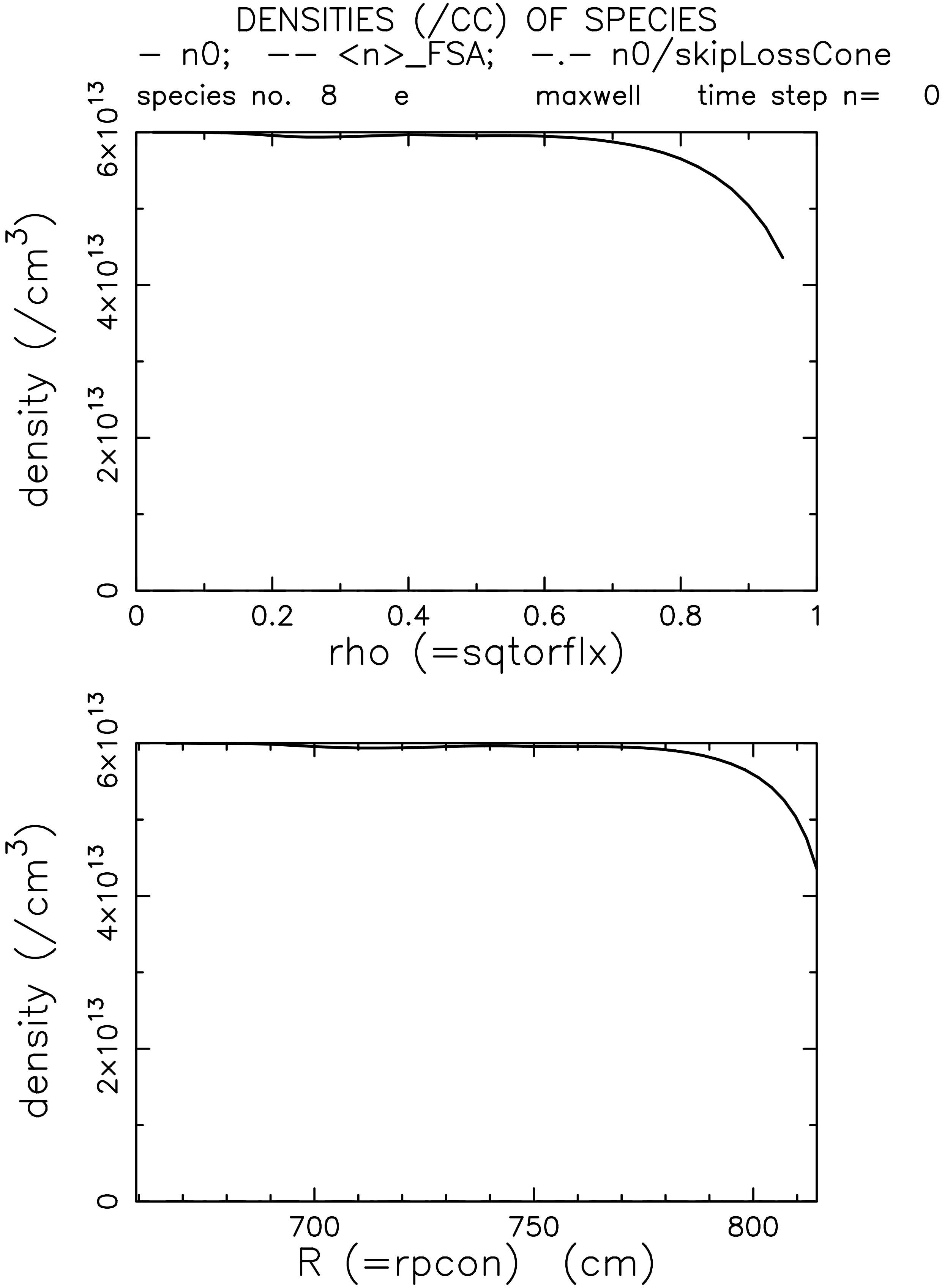


DENSITIES (/CC) OF SPECIES

— n0; -- <n>_FSA; -.- n0/skipLossCone

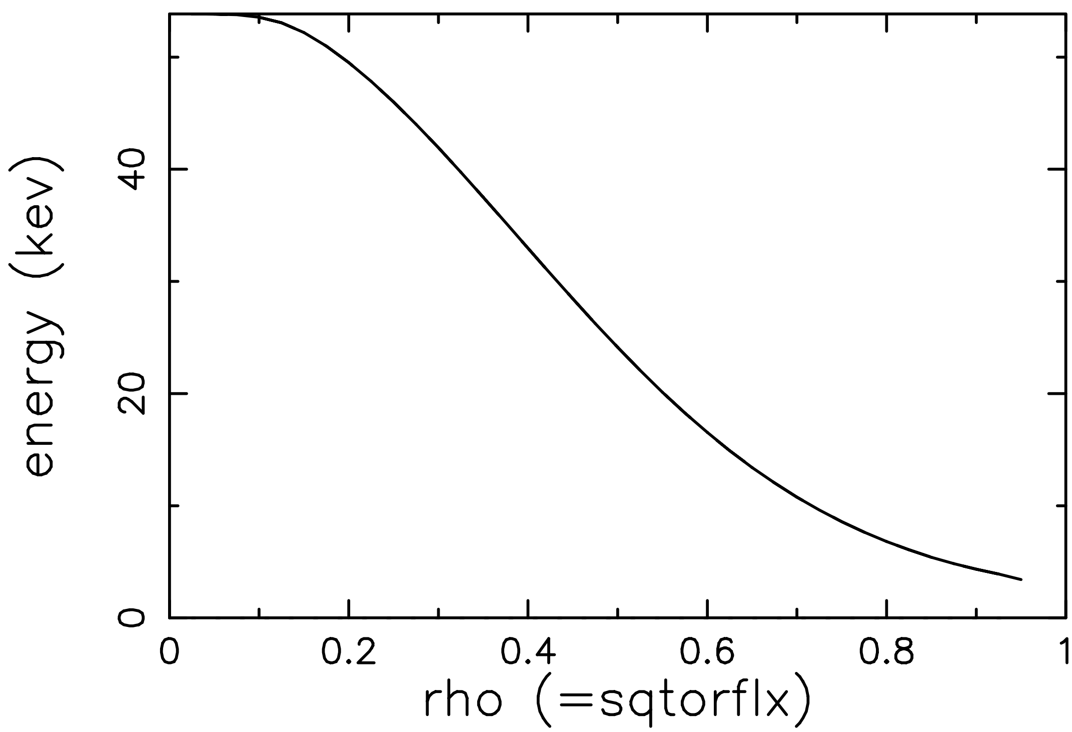
species no. 7   Ar   maxwell   time step n=   0

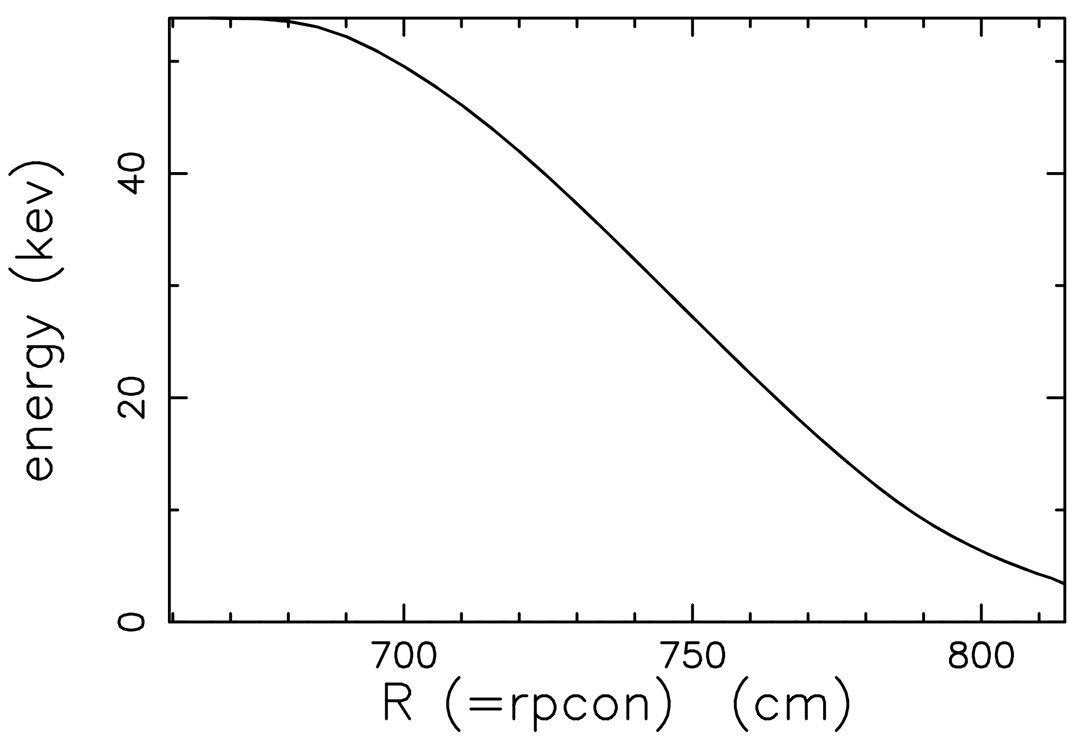



DENSITIES (/CC) OF SPECIES
— n0; -- <n>_FSA; -.- n0/skipLossCone
species no. 8 e maxwell time step n= 0
density (/cm3)
0
2x10^13
4x10^13
6x10^13
0
0.2
0.4
0.6
0.8
1
rho (=sqtorflx)
density (/cm3)
0
2x10^13
4x10^13
6x10^13
700
750
800
R (=rpcon) (cm)

ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

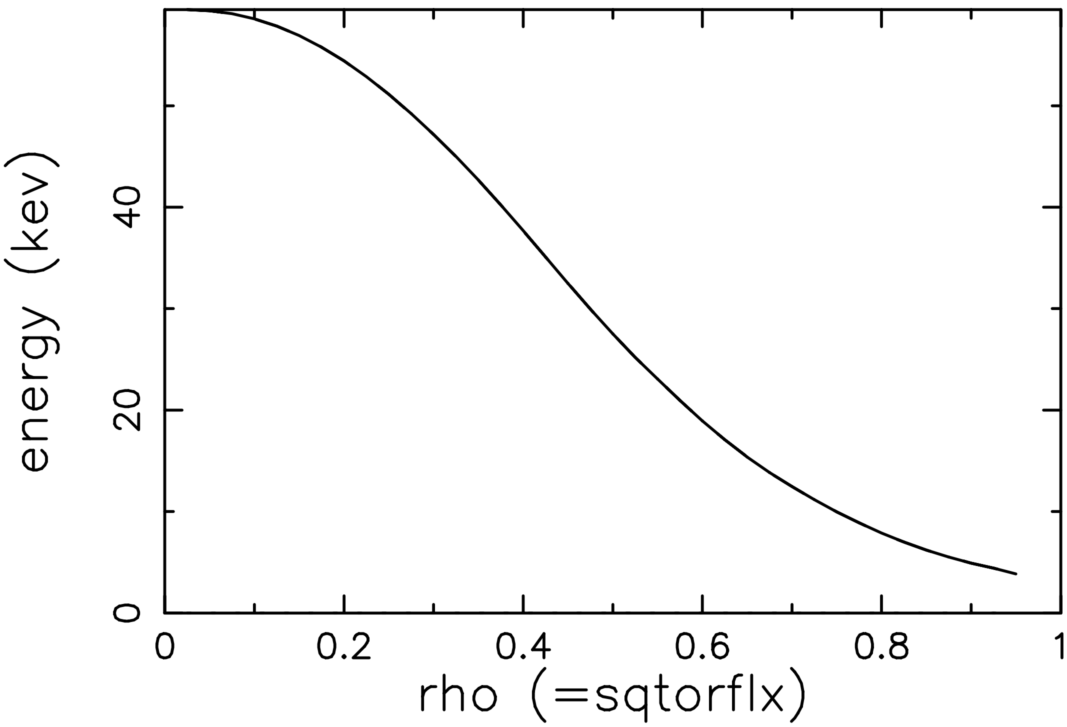
species no. 1 He general time step n= 0

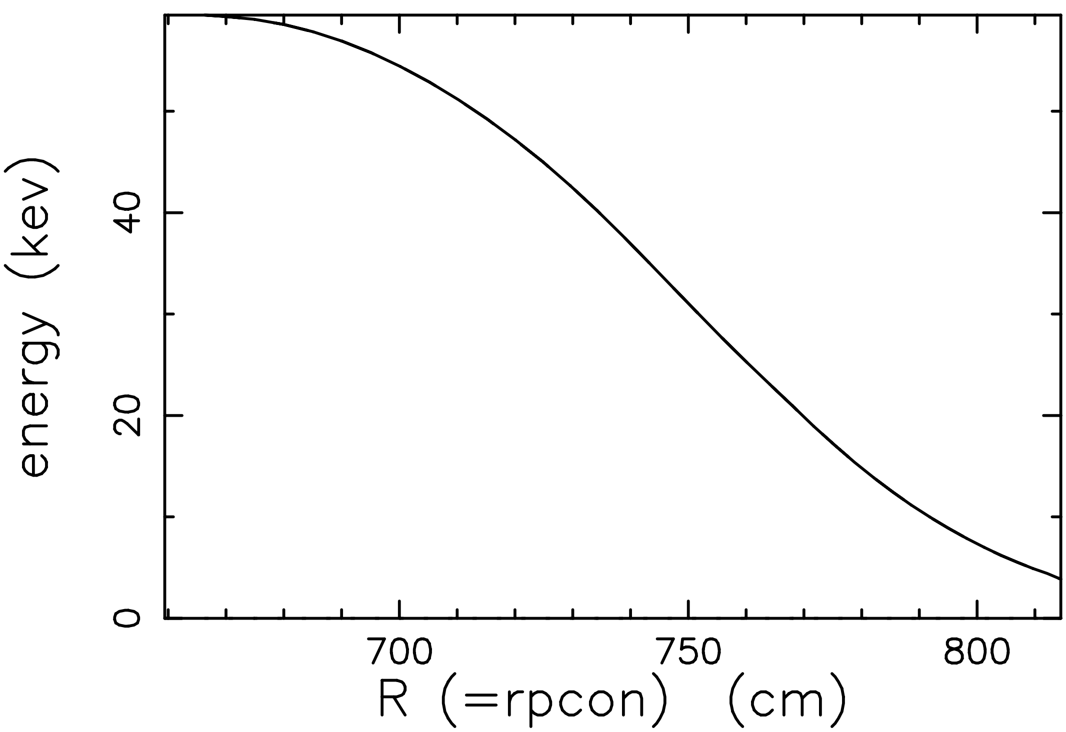




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

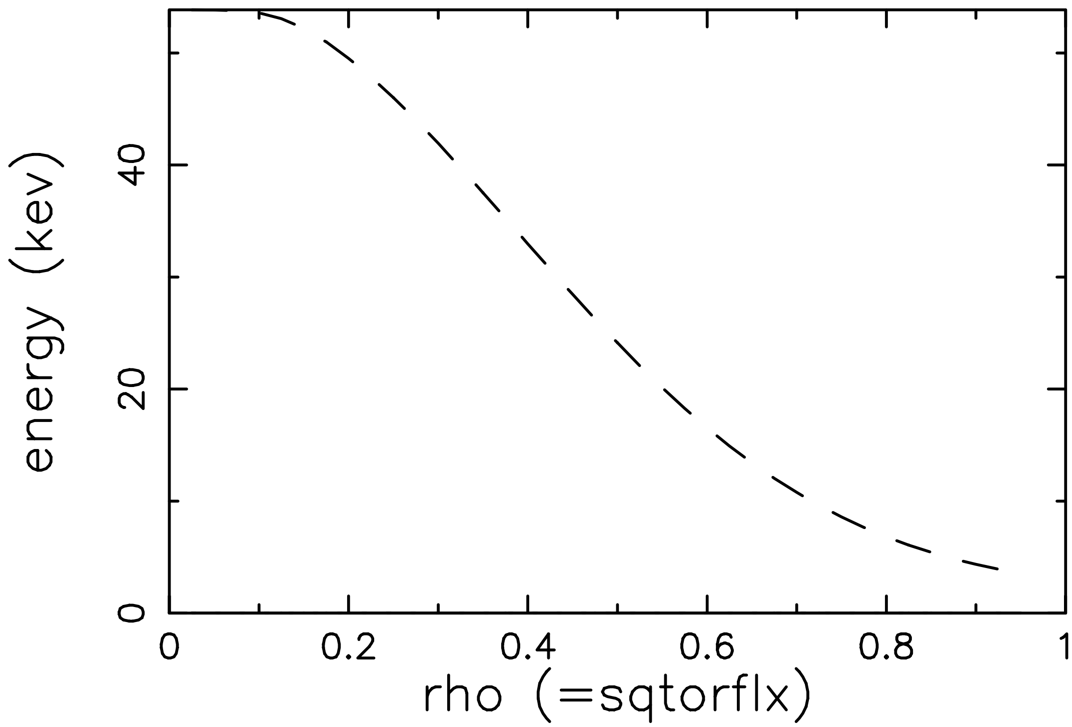
species no. 2 e general time step n= 0

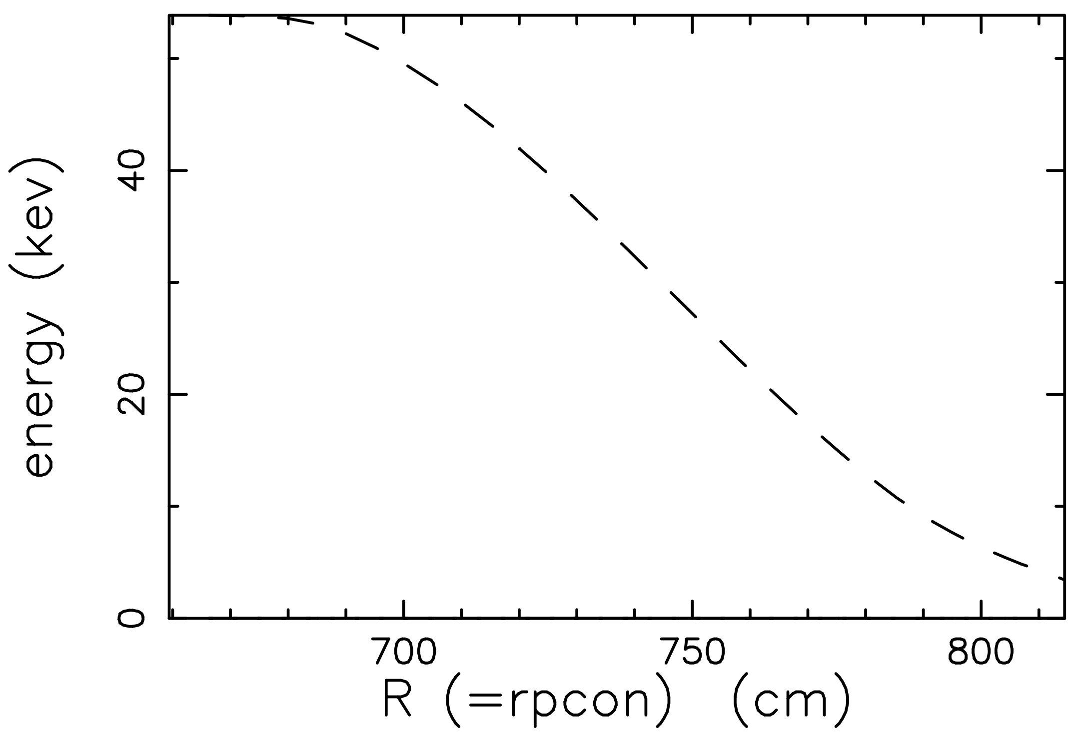




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

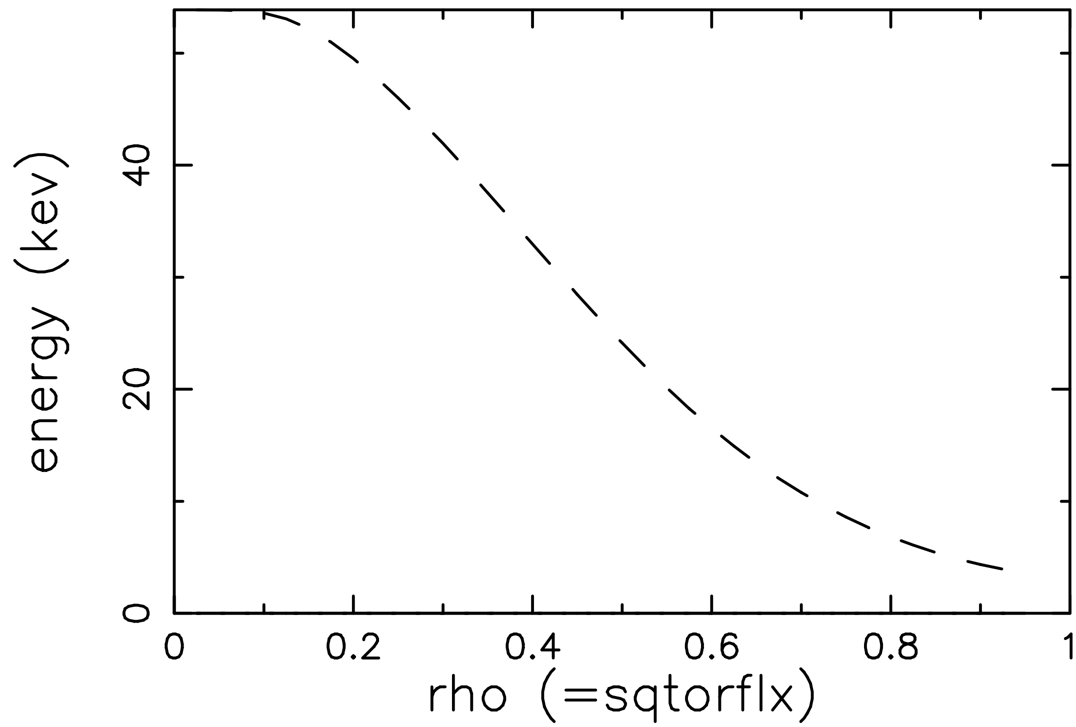
species no. 3 He maxwell time step n= 0

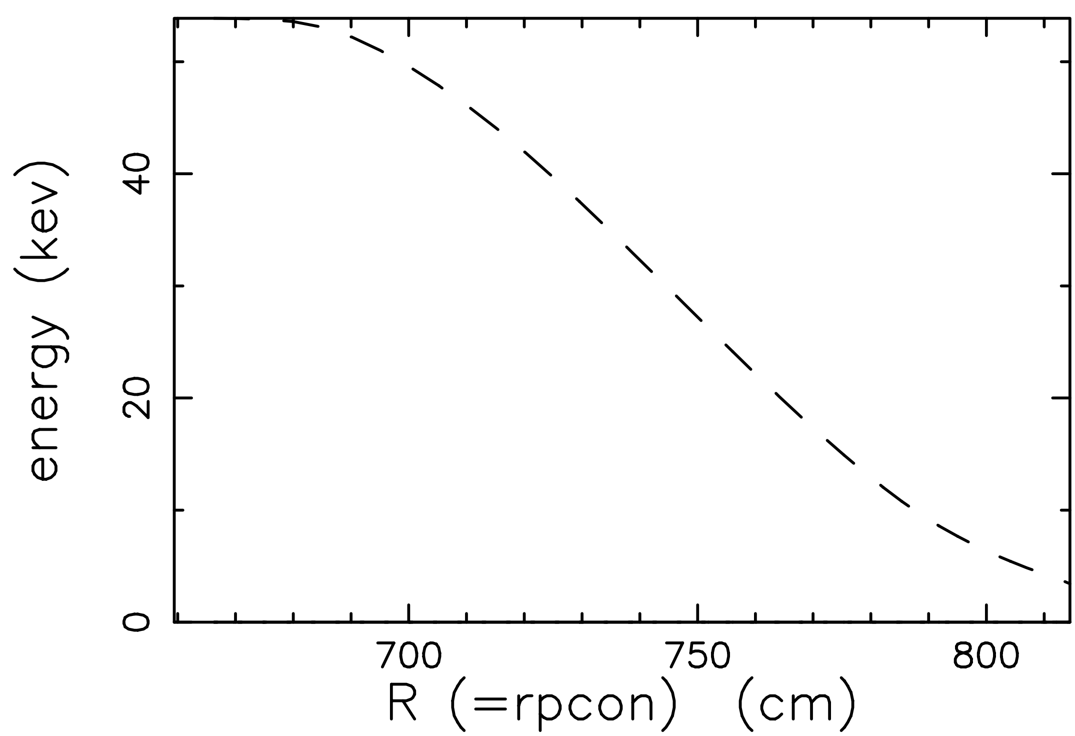




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

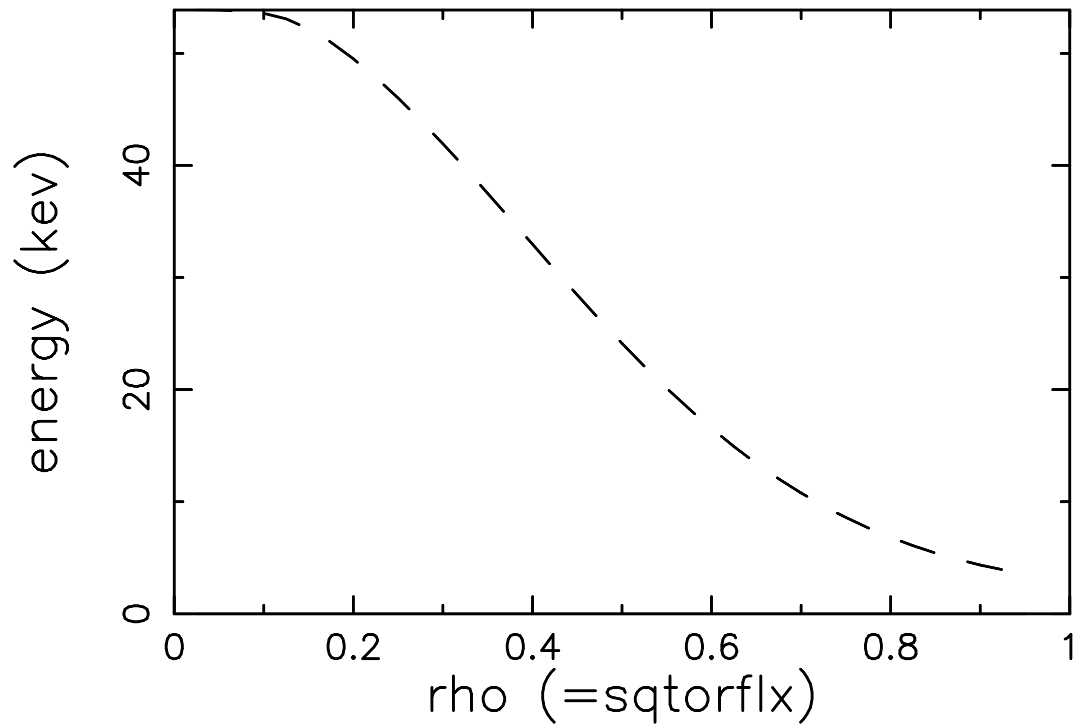
species no. 4 D maxwell time step n= 0

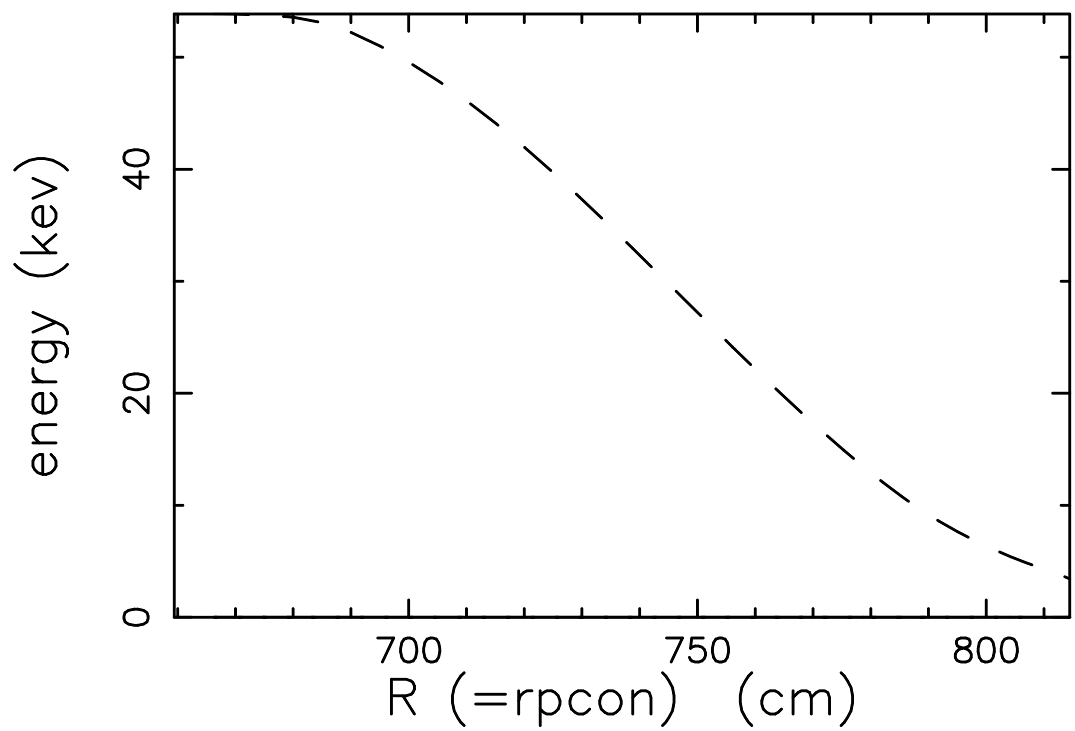




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

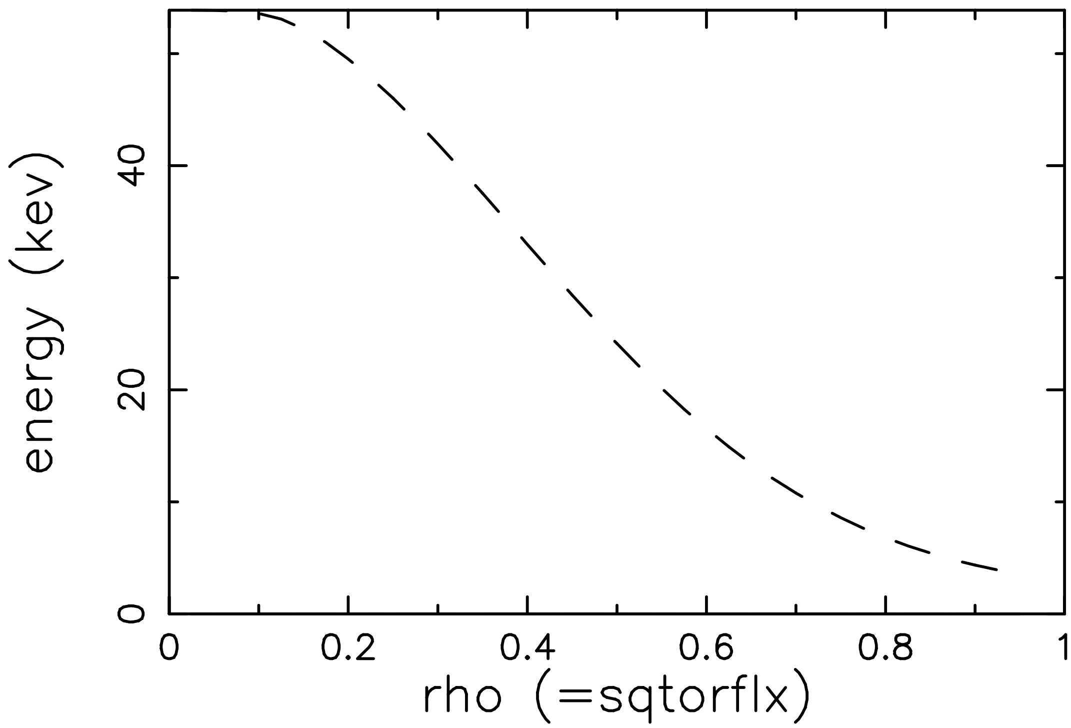
species no. 5 T maxwell time step n= 0

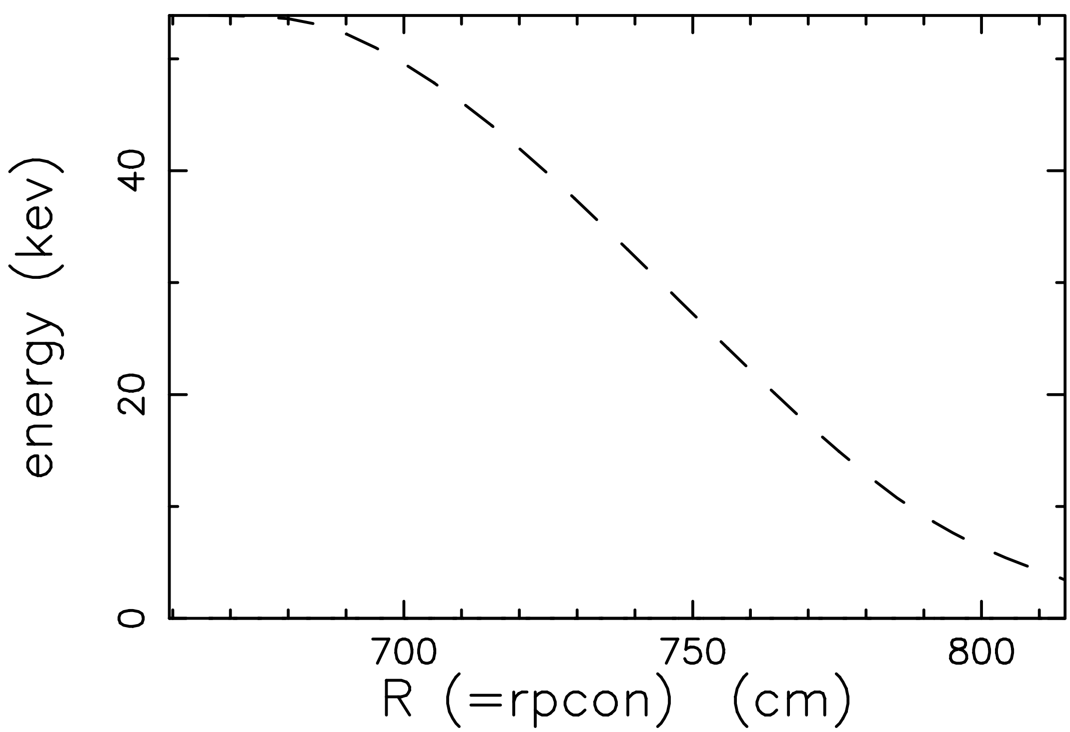




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

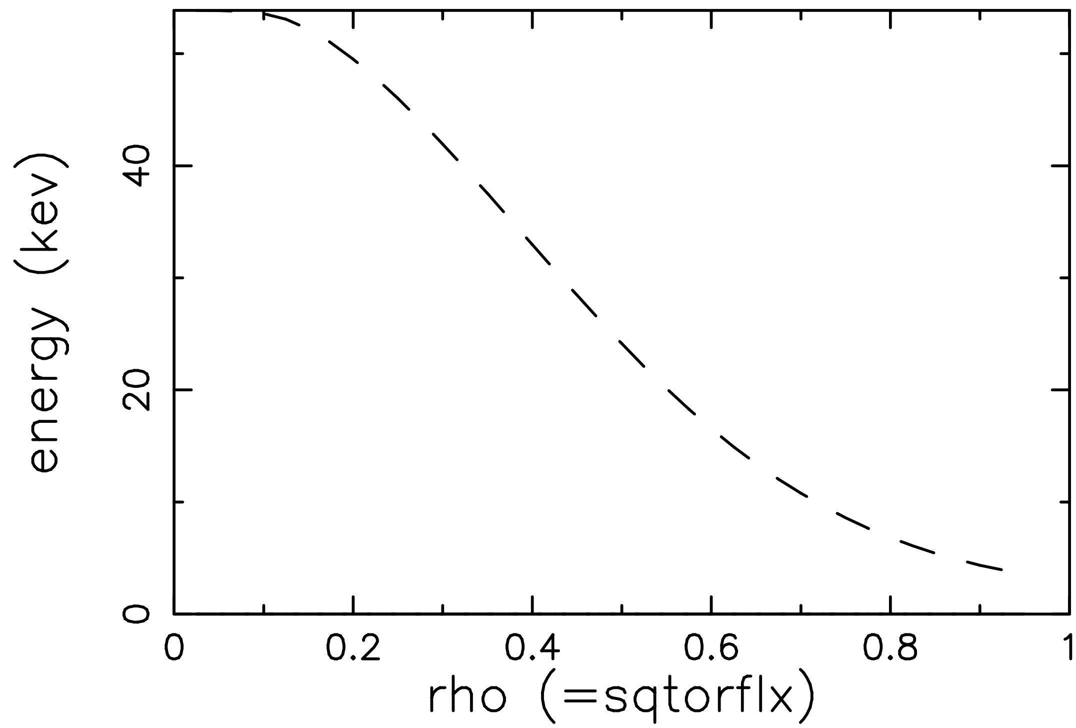
species no. 6   Be   maxwell   time step n=   0

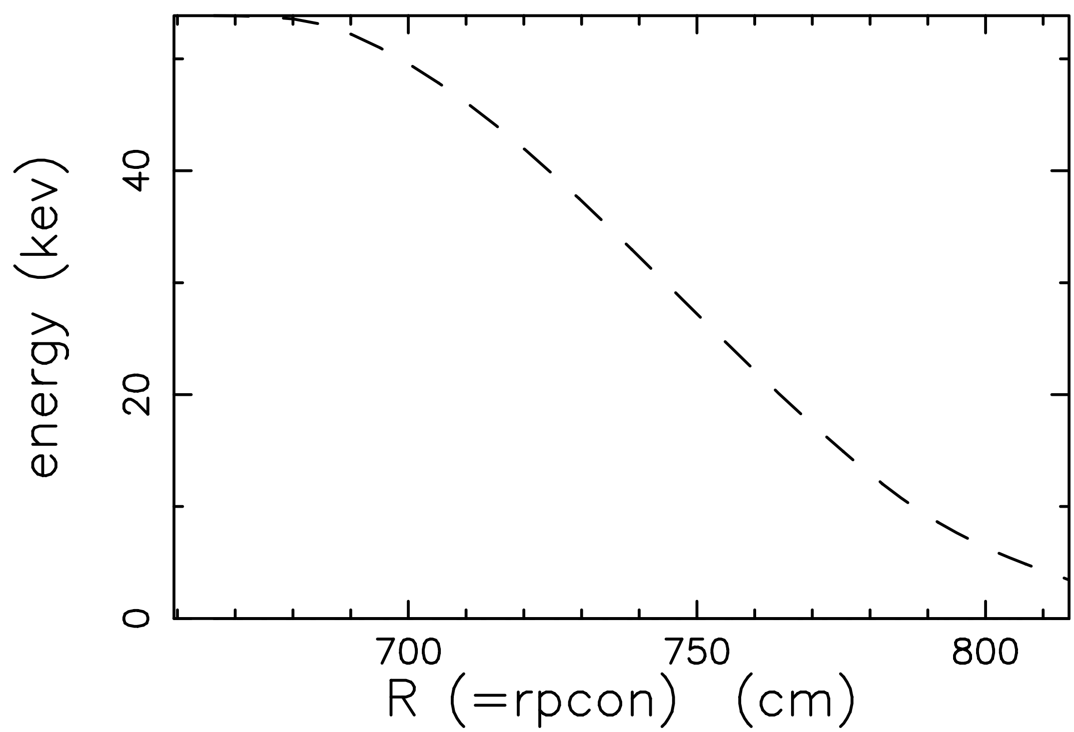




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

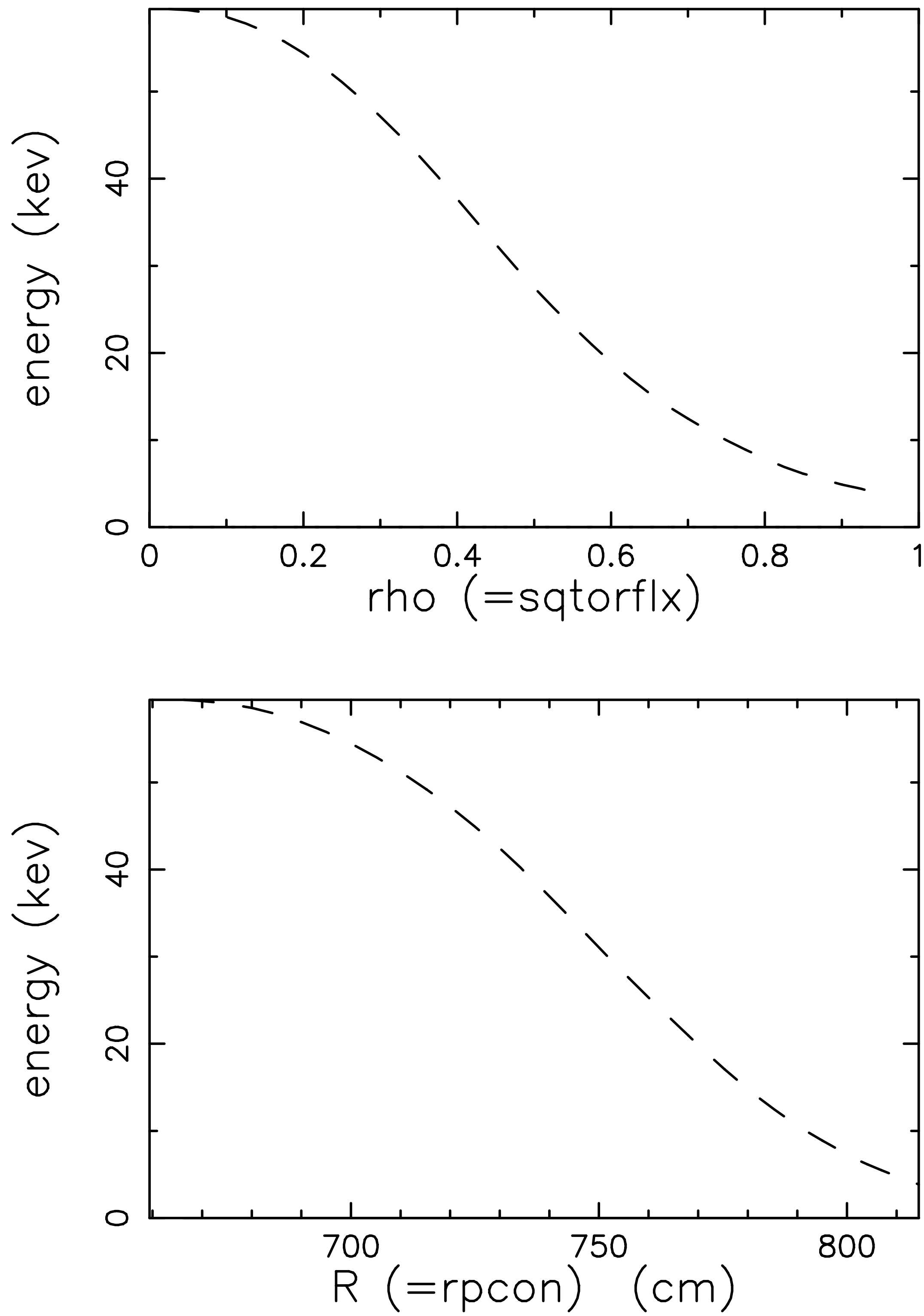
species no. 7 Ar maxwell time step n= 0



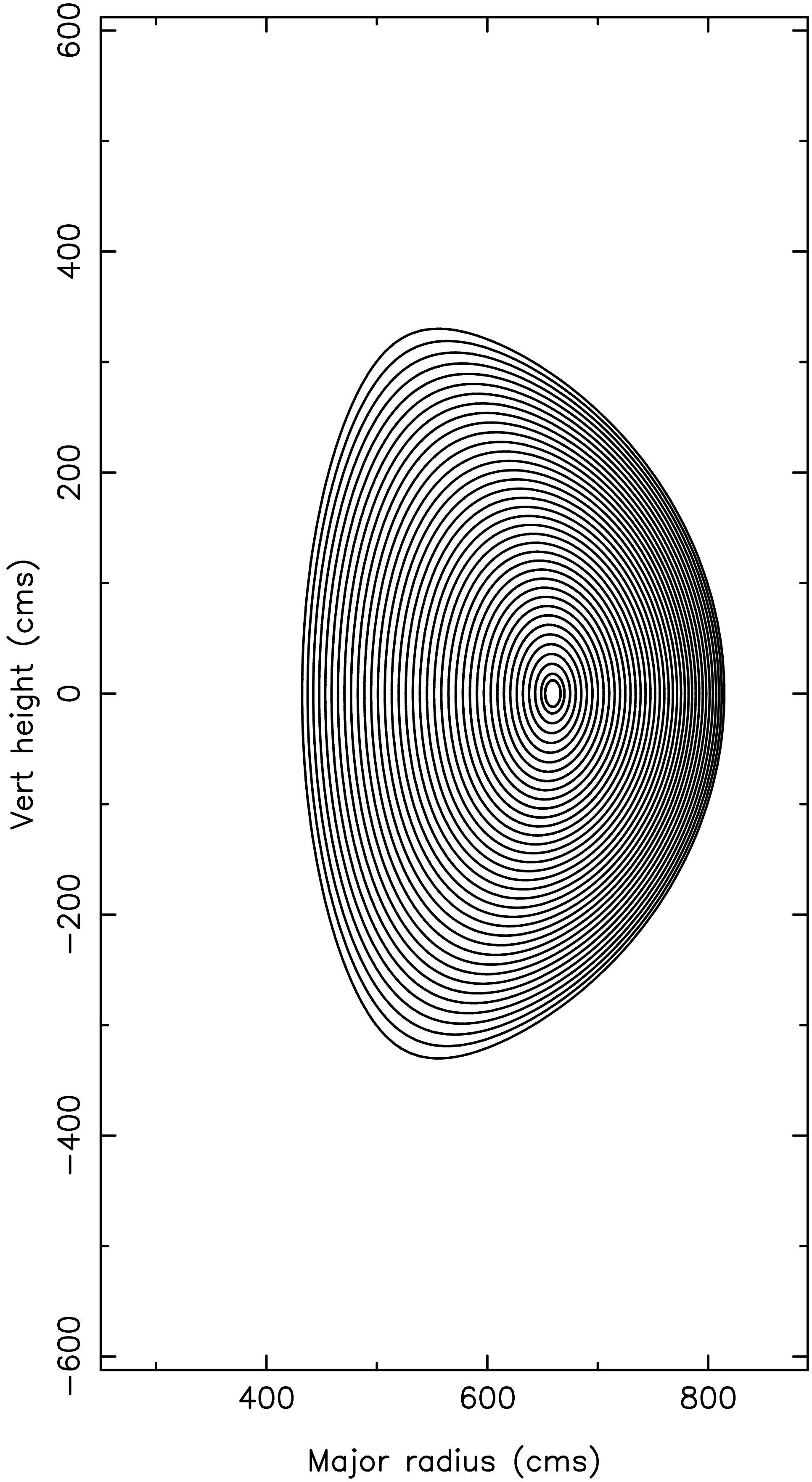


ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

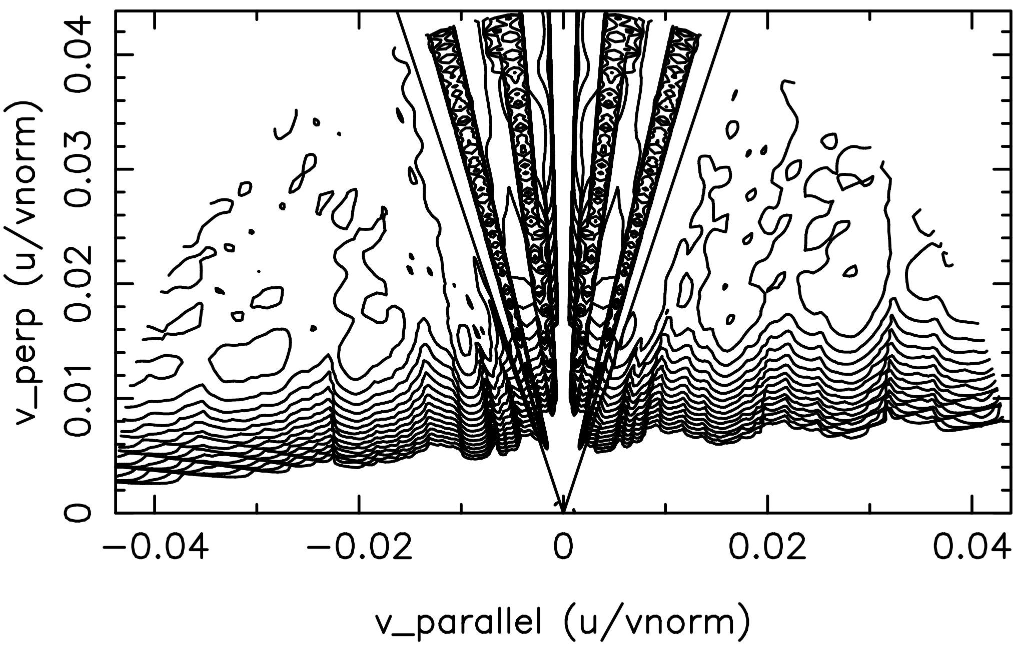
species no. 8   e   maxwell   time step n=   0



Fokker–Planck Flux Surfaces



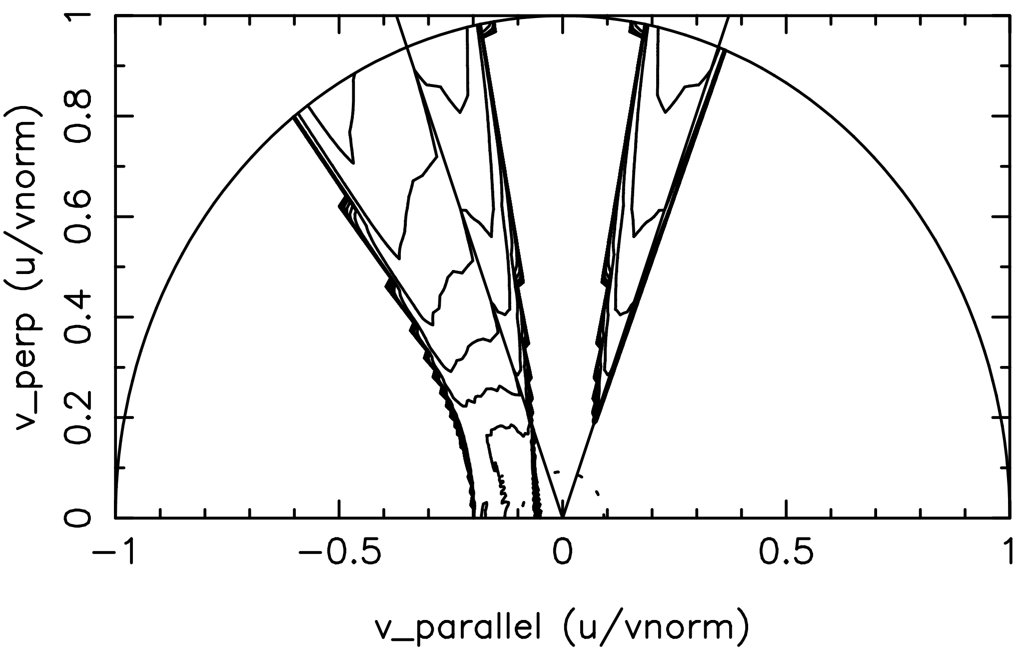
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 8; all modes
Max value for this surface/mode: 0.267E−02
Species k=1

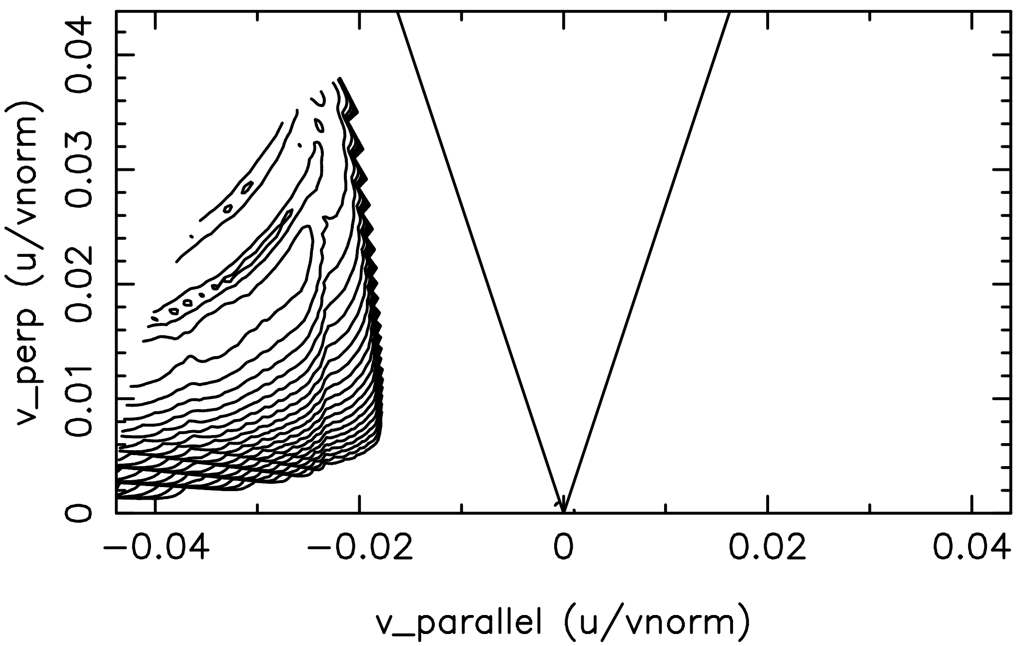
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf#   8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number   8; all modes
Max value for this surface/mode: 0.615E+02
Species k=2

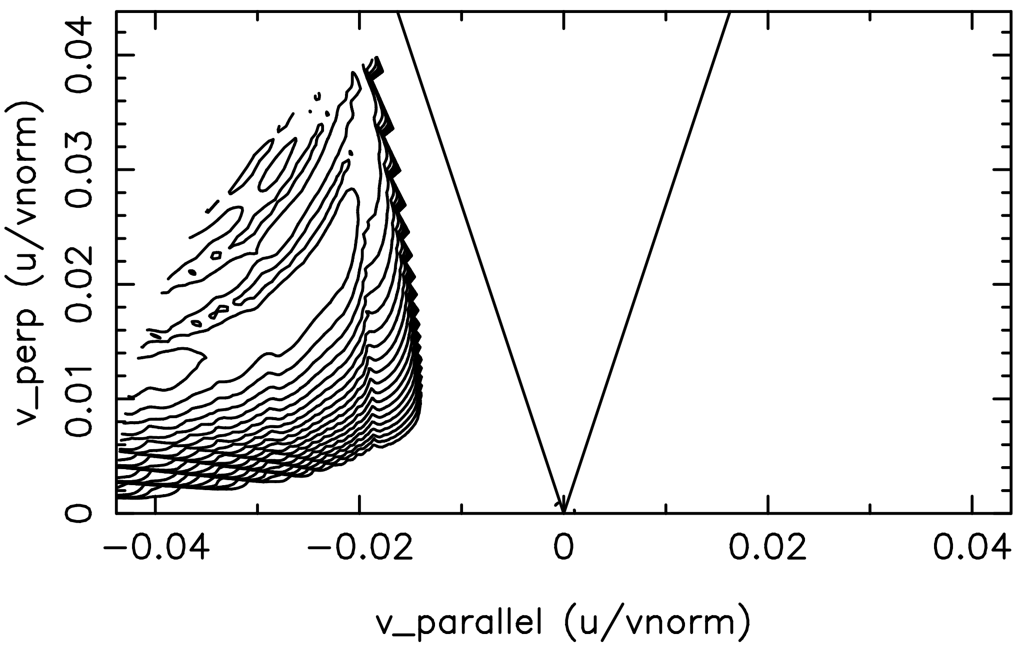
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.827E−06

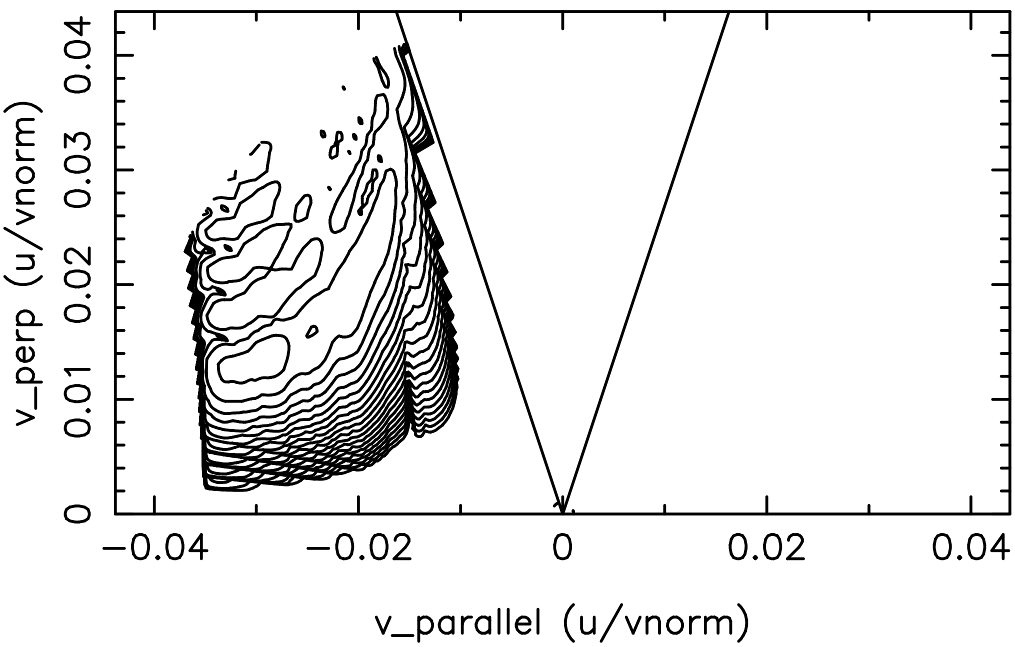
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf#   8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm=   2   10; Species k=1
Max value for this surface/mode: 0.143E−05

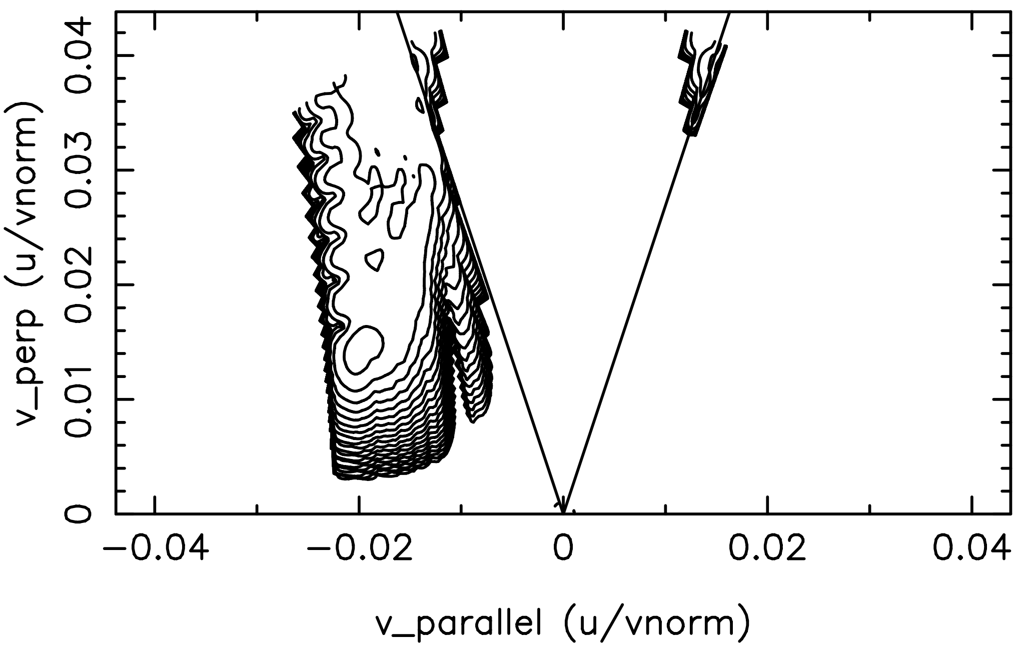
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 3 11; Species k=1
Max value for this surface/mode: 0.234E−05

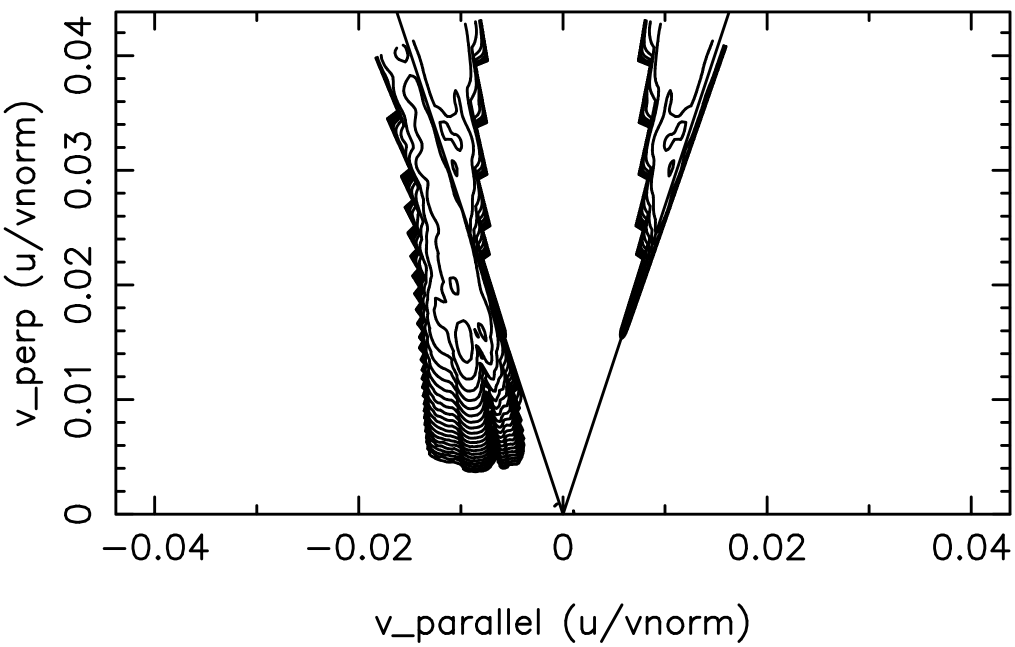
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 4 12; Species k=1
Max value for this surface/mode: 0.408E−05

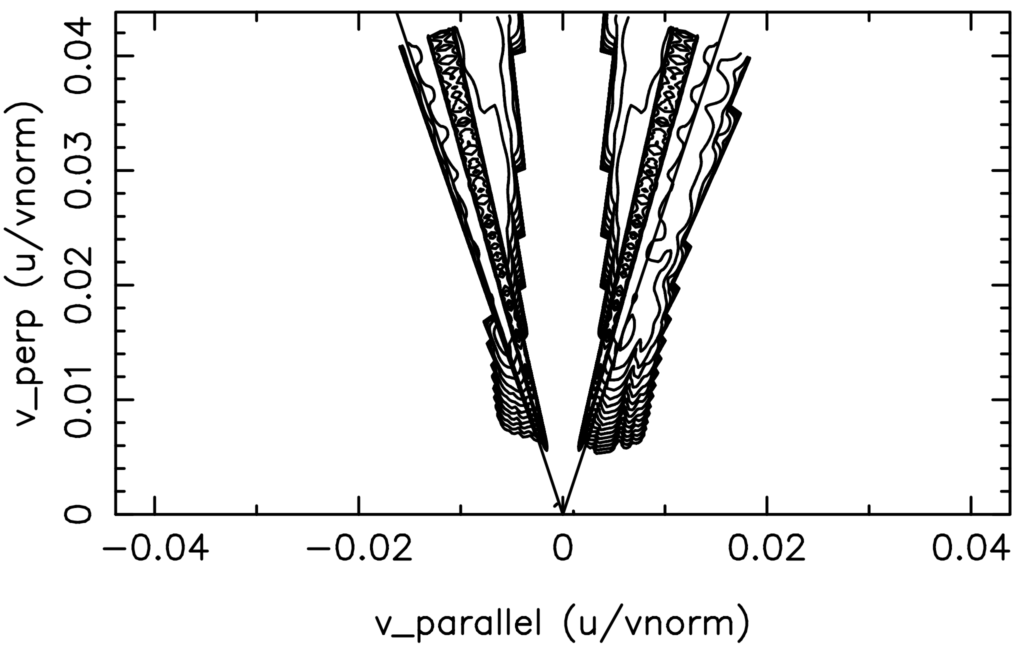
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf#   8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm=   5   13; Species k=1
Max value for this surface/mode: 0.795E−05

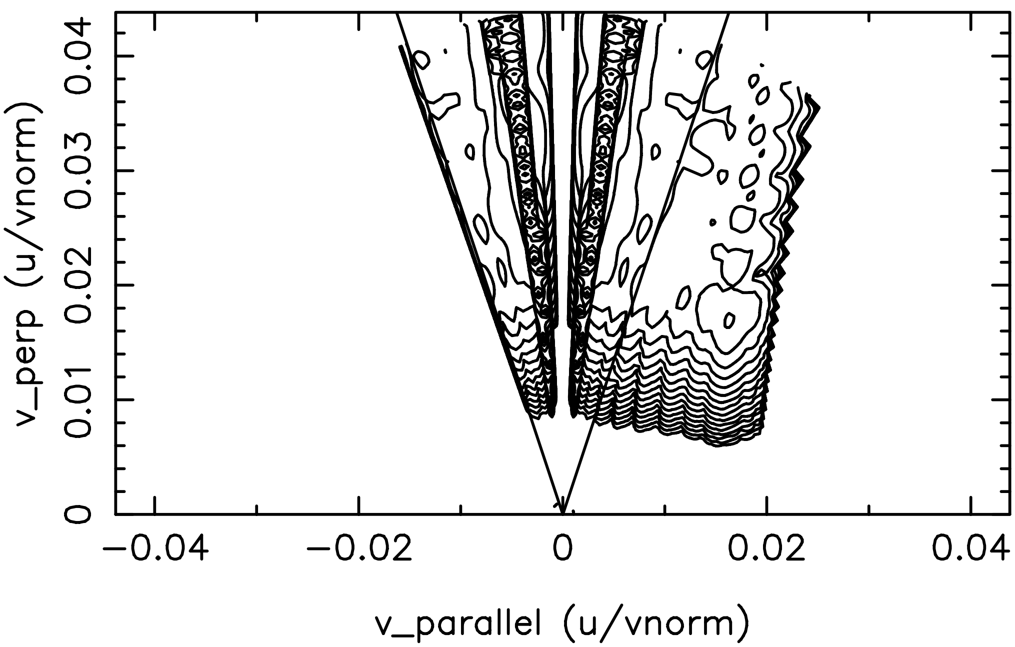
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 6 14; Species k=1
Max value for this surface/mode: 0.267E−02

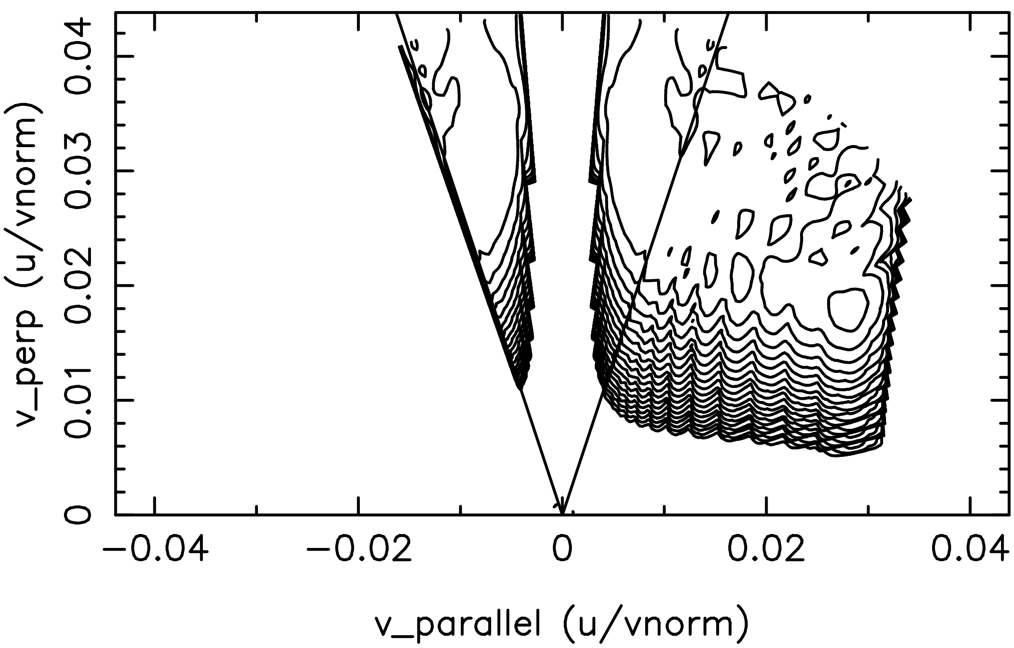
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 7 15; Species k=1
Max value for this surface/mode: 0.243E−02

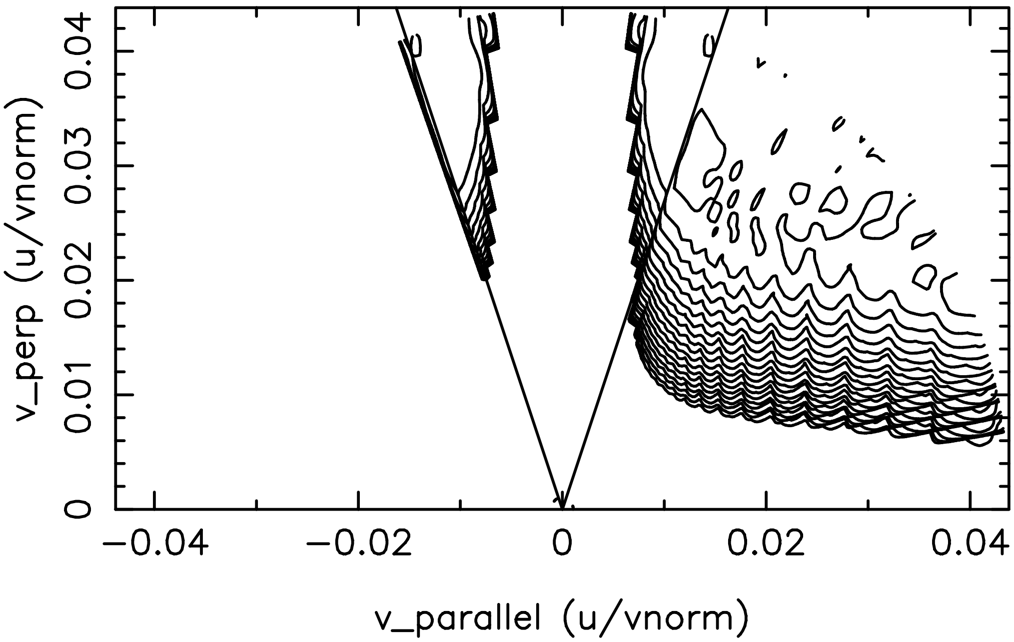
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 8 16; Species k=1
Max value for this surface/mode: 0.712E−04

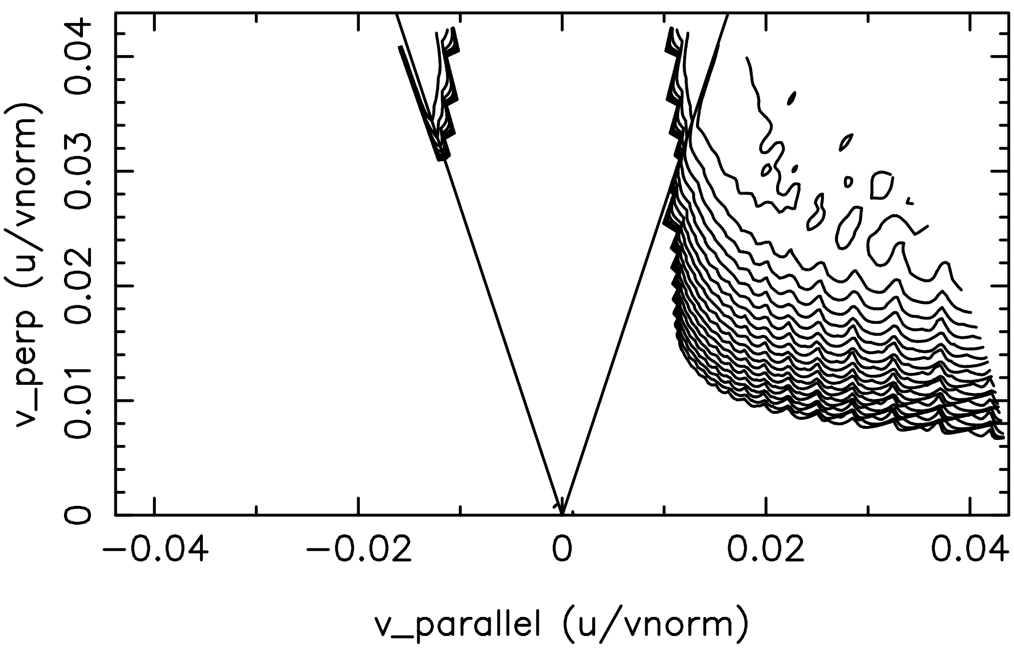
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.106E−03

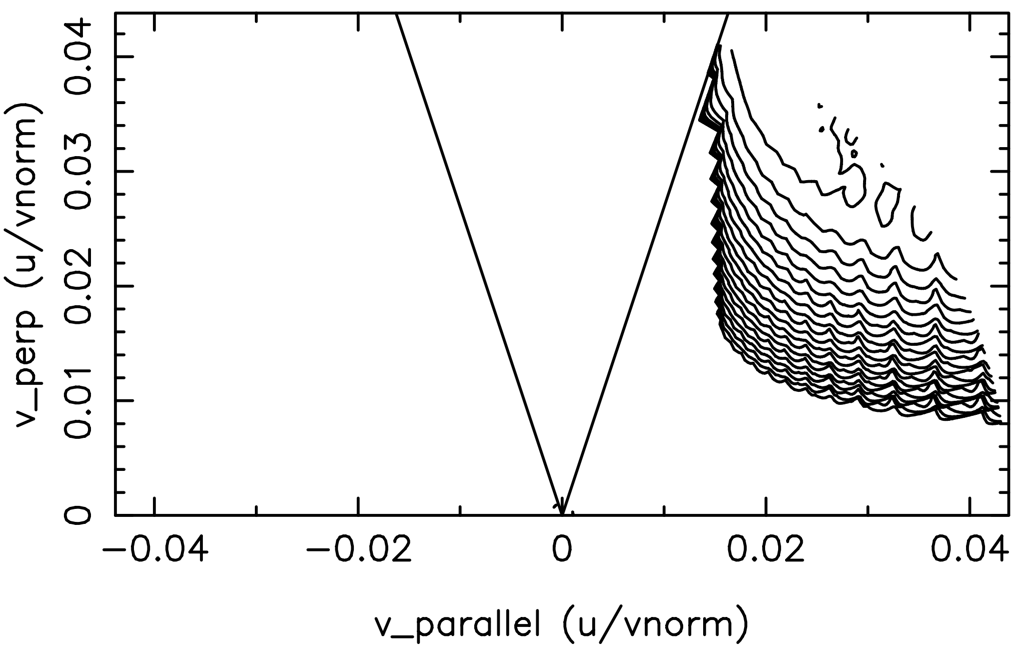
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf#   8

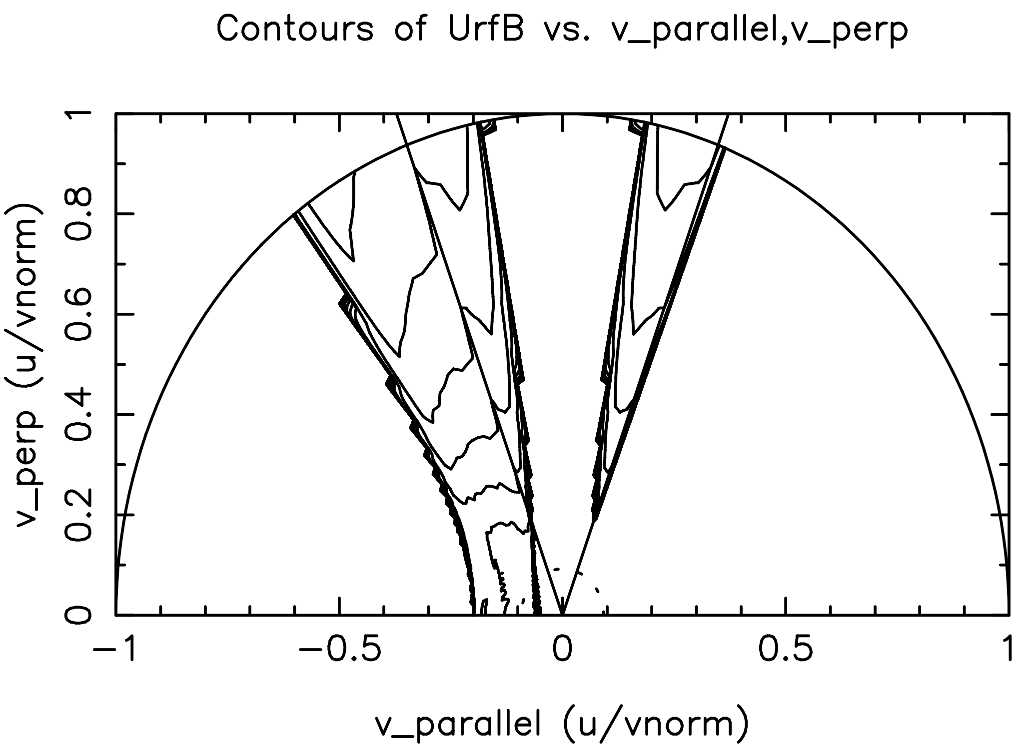
Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm=   10   18; Species k=1
Max value for this surface/mode: 0.202E−03

Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf#   8

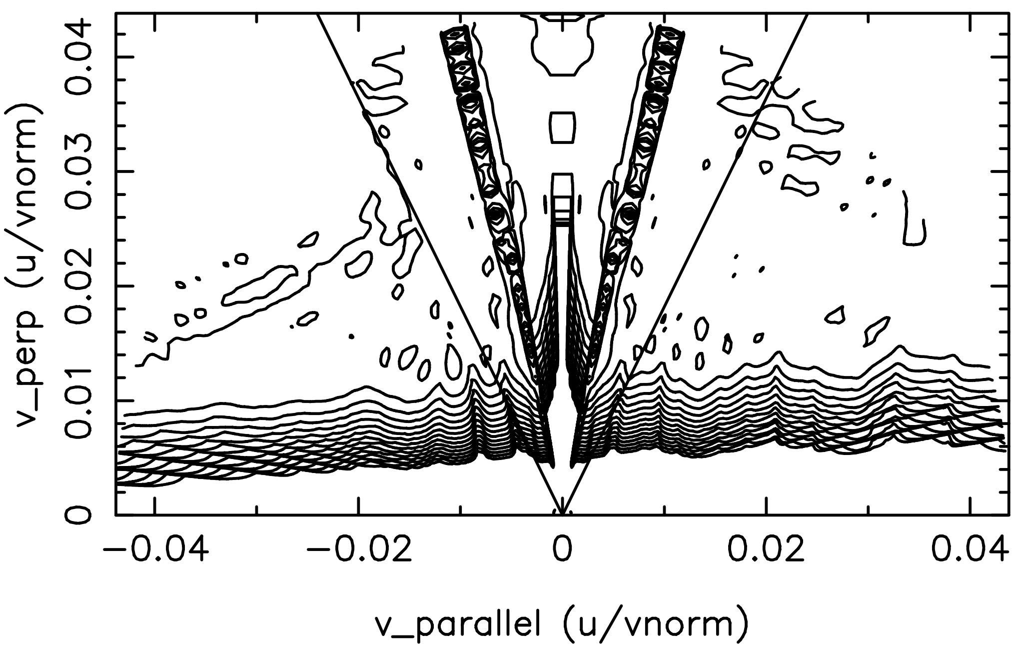
Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm=   11   19; Species k=1
Max value for this surface/mode: 0.212E−03



time step n= 0 time= 0.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 12 0; Species k=2
Max value for this surface/mode: 0.615E+02

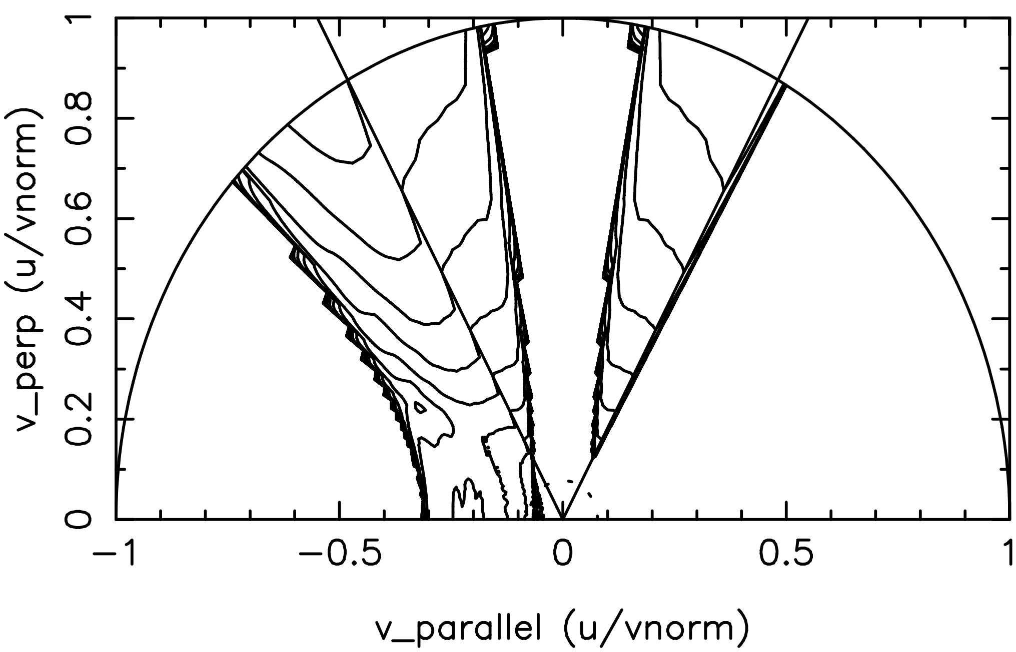
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E-01 radial position (r) = 1.02E+02 cm
rya= 4.000E-01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 16; all modes
Max value for this surface/mode: 0.220E-01
Species k=1

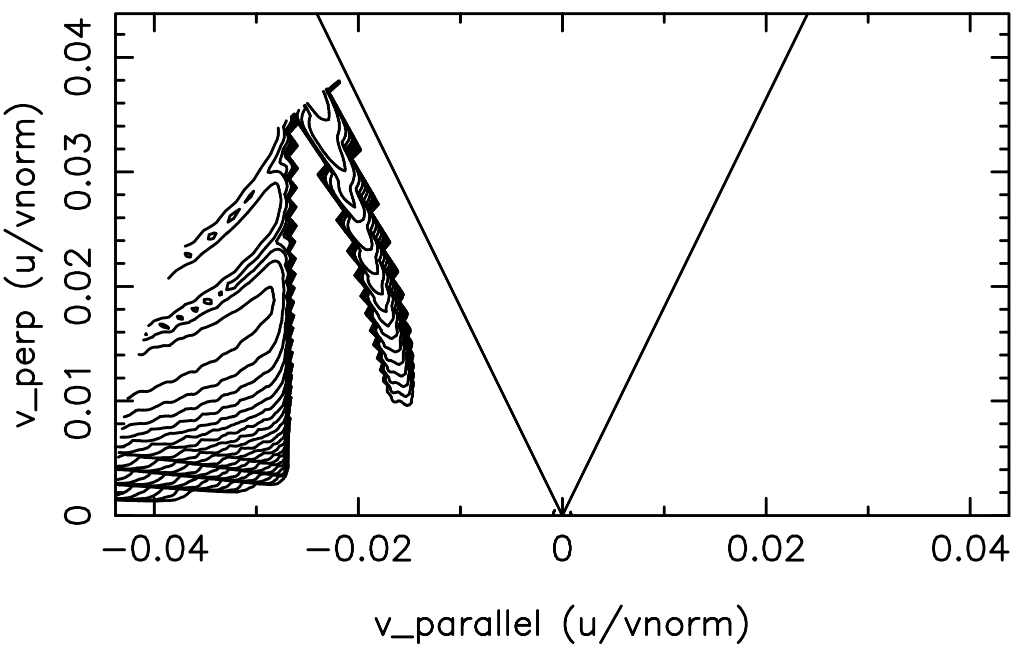
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 16; all modes
Max value for this surface/mode: 0.219E+03
Species k=2

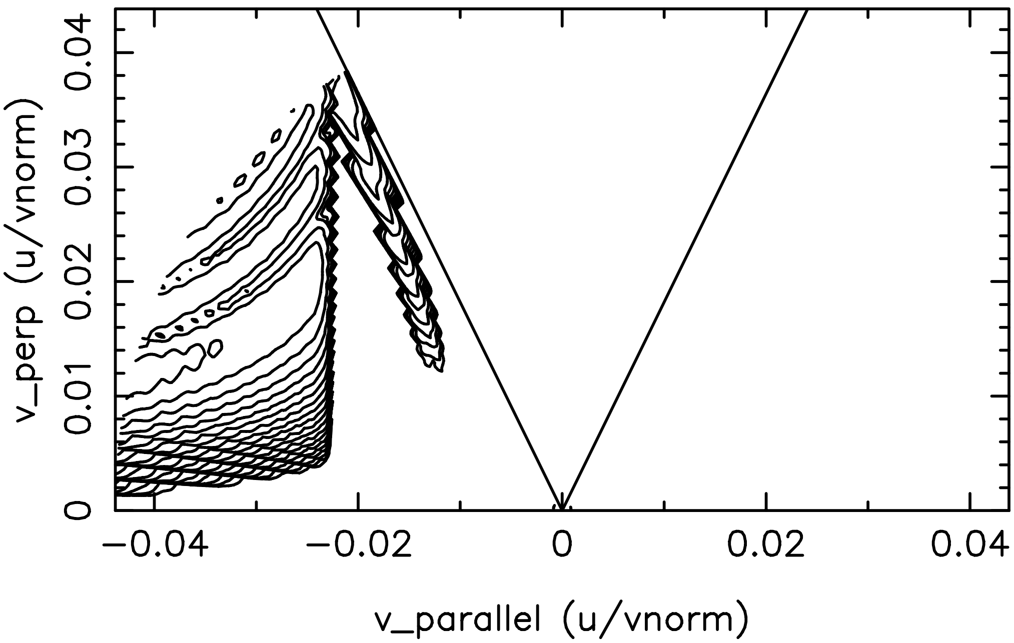
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.216E−05

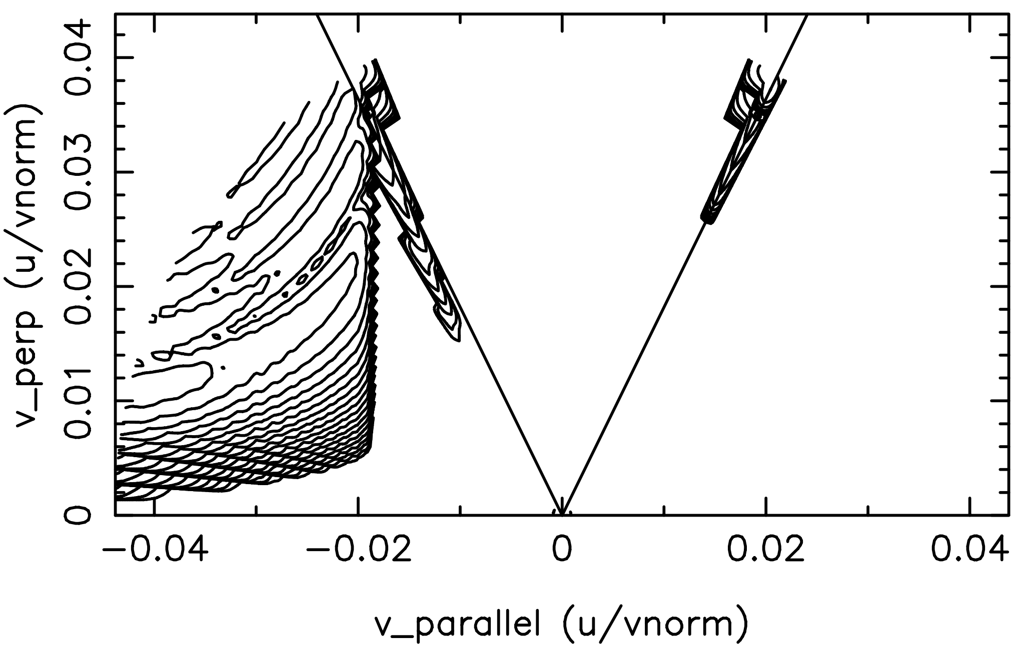
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 2 10; Species k=1
Max value for this surface/mode: 0.290E−05

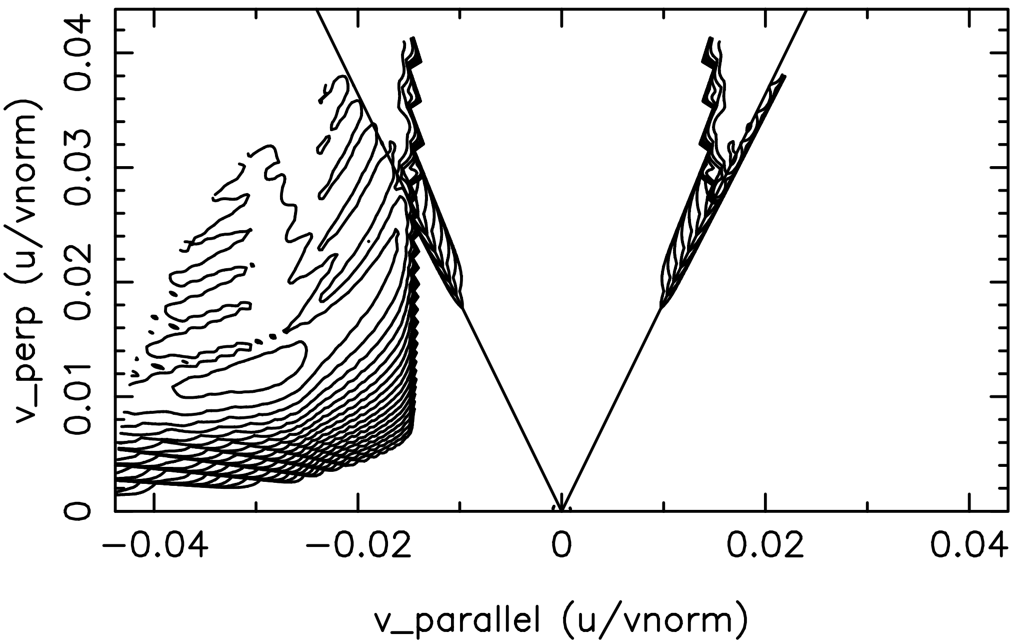
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 3 11; Species k=1
Max value for this surface/mode: 0.482E−05

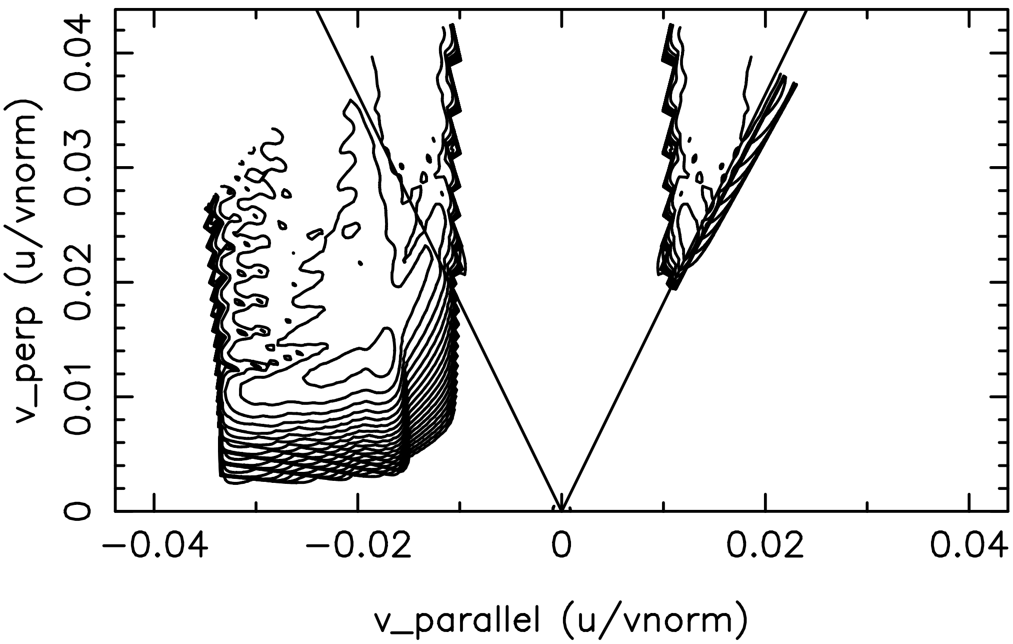
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 4 12; Species k=1
Max value for this surface/mode: 0.709E−05

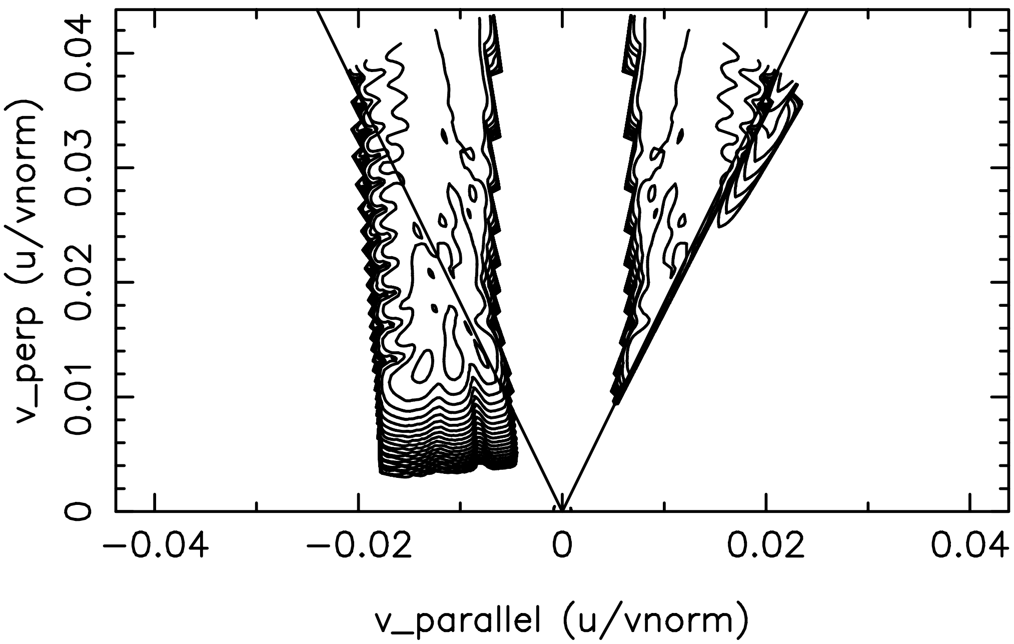
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 4.00E−01   radial position (r) = 1.02E+02 cm
rya= 4.000E−01   R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm=   5   13; Species k=1
Max value for this surface/mode: 0.229E−04

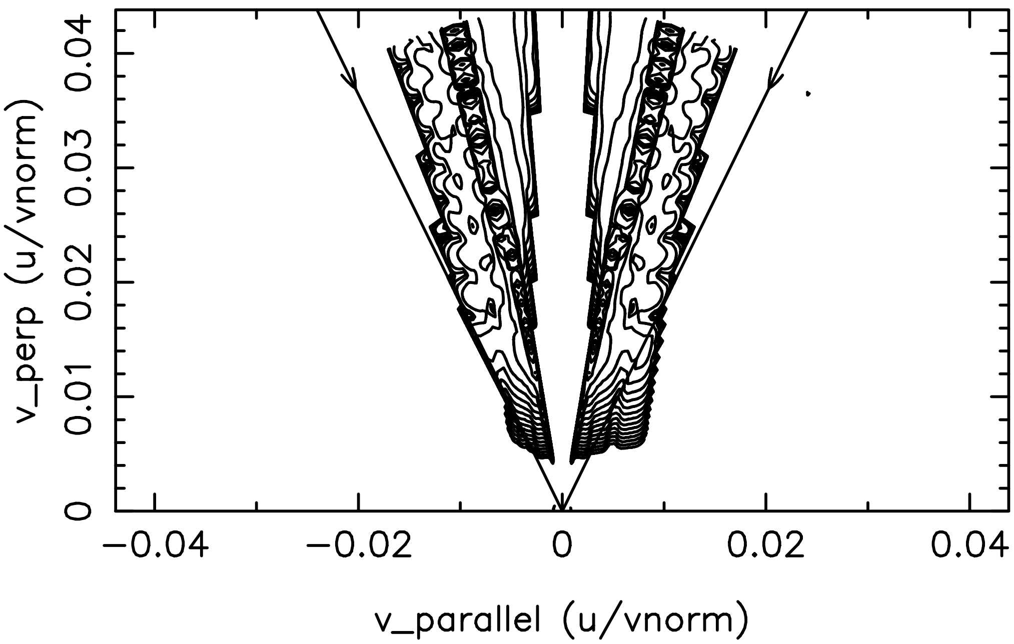
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 6 14; Species k=1
Max value for this surface/mode: 0.220E−04

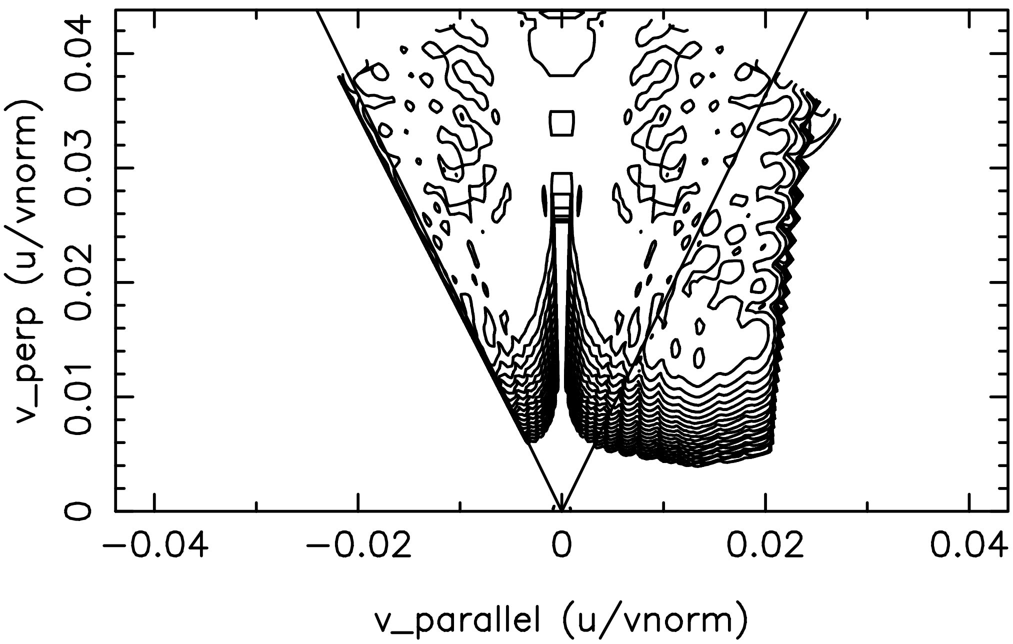
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 7 15; Species k=1
Max value for this surface/mode: 0.220E−01

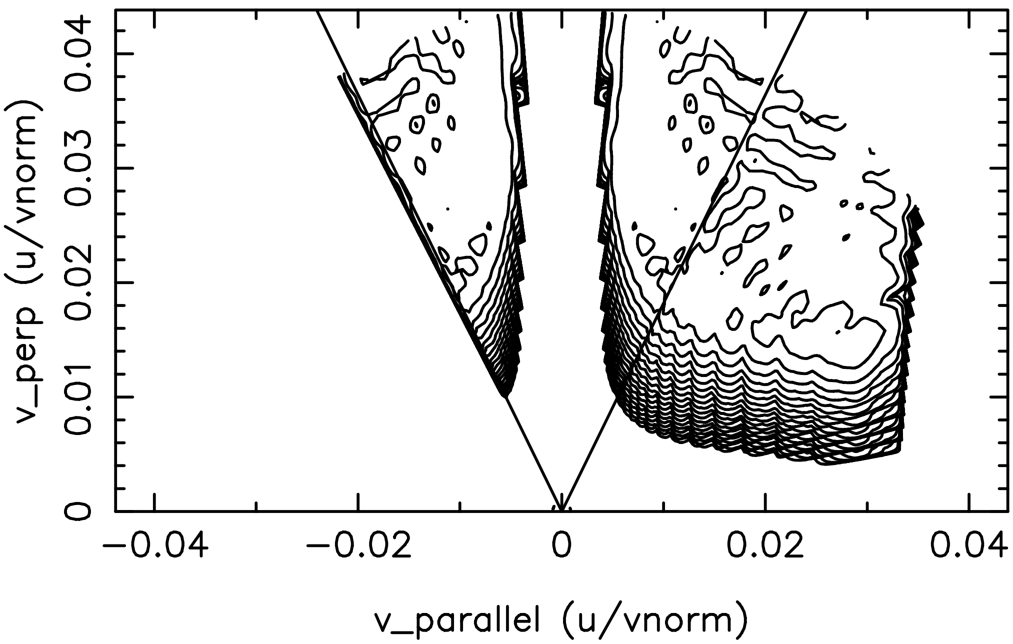
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 8 16; Species k=1
Max value for this surface/mode: 0.544E−04

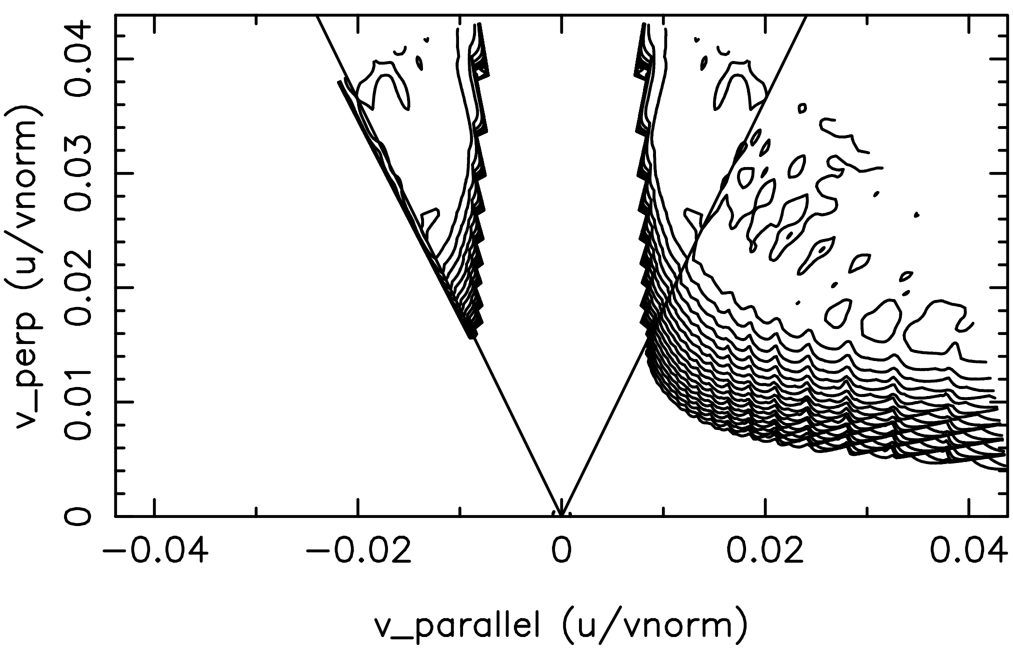
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.698E−04

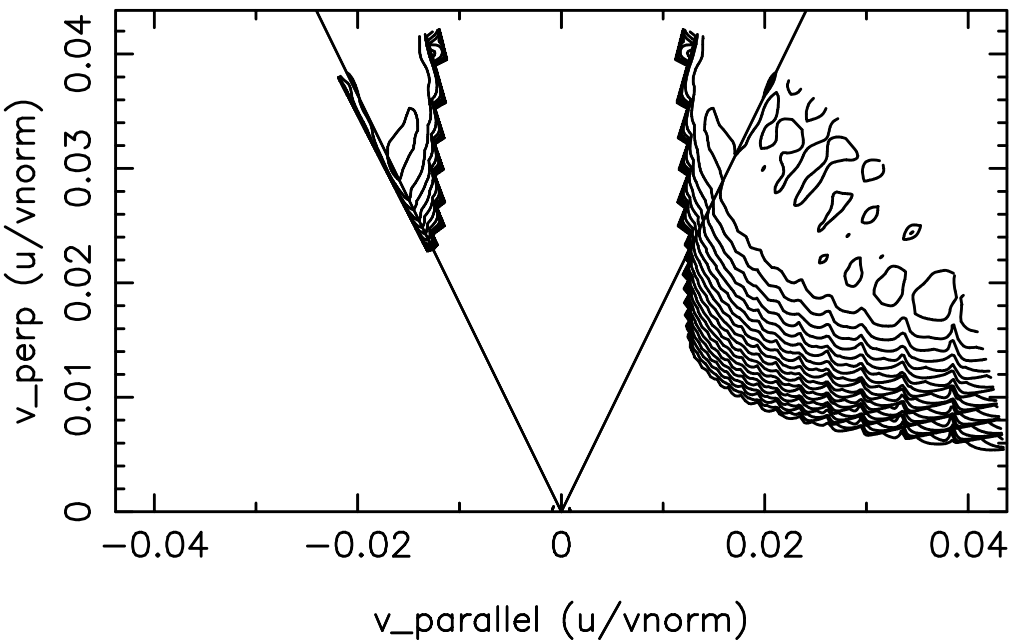
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 10 18; Species k=1
Max value for this surface/mode: 0.860E−04

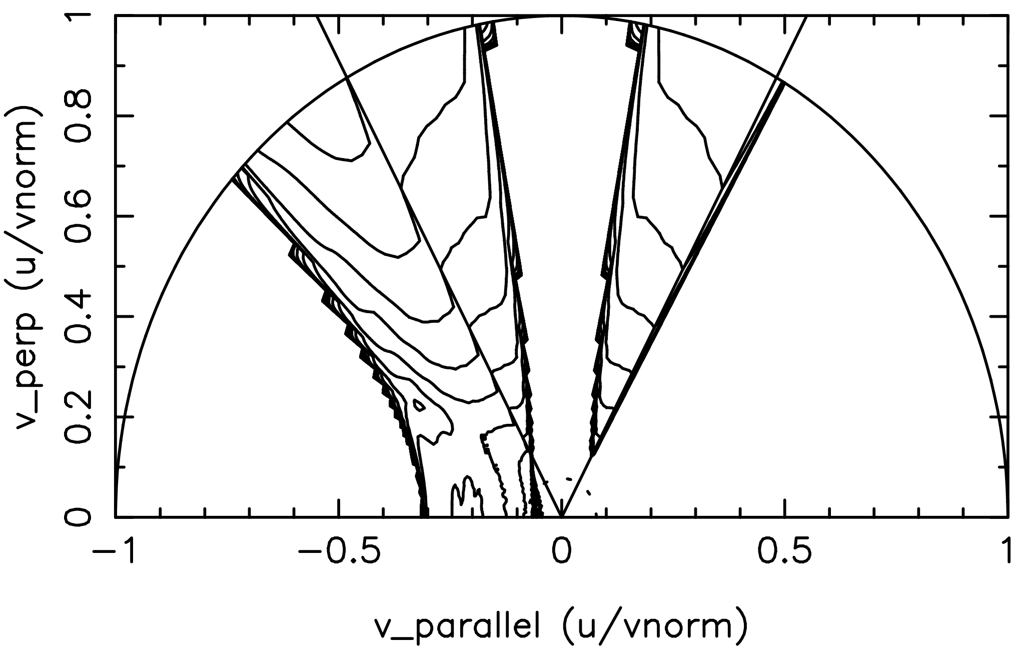
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 4.00E−01   radial position (r) = 1.02E+02 cm
rya= 4.000E−01   R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm=   11   19; Species k=1
Max value for this surface/mode: 0.142E−03

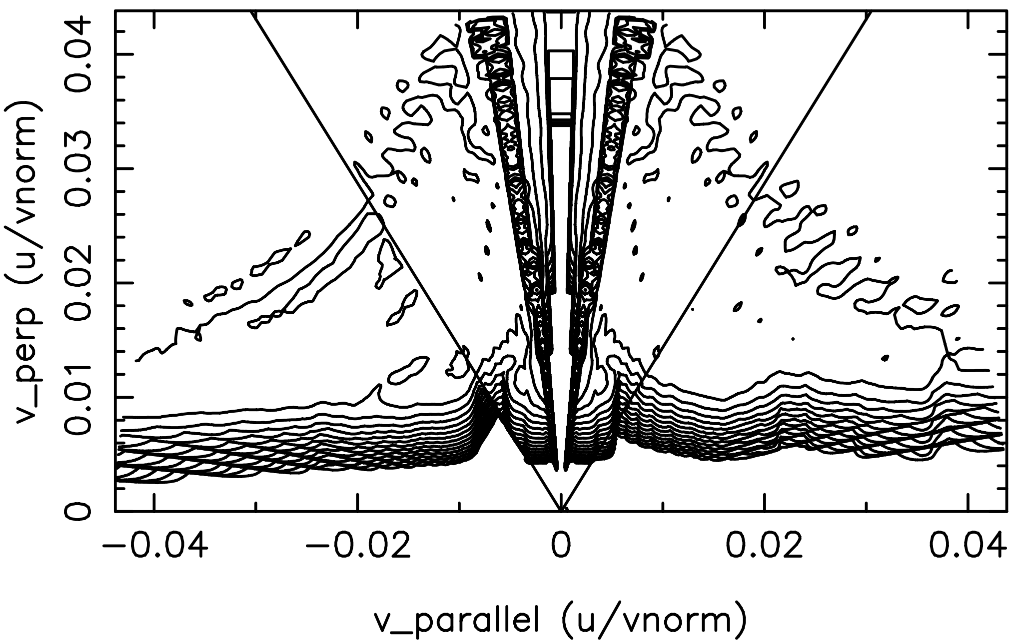
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 12 0; Species k=2
Max value for this surface/mode: 0.219E+03

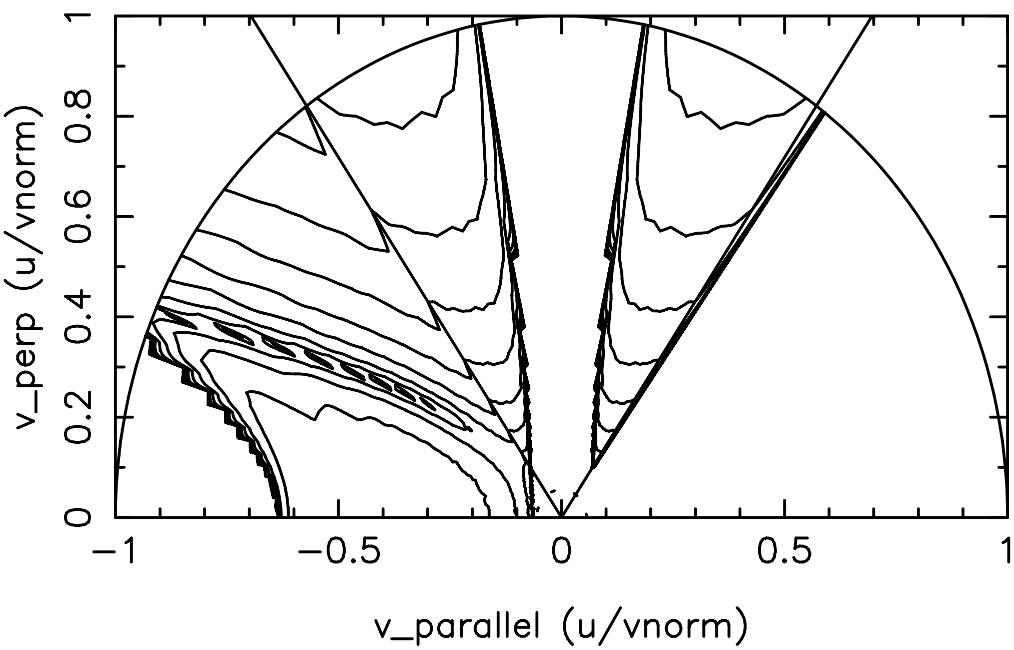
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 24; all modes
Max value for this surface/mode: 0.350E−01
Species k=1

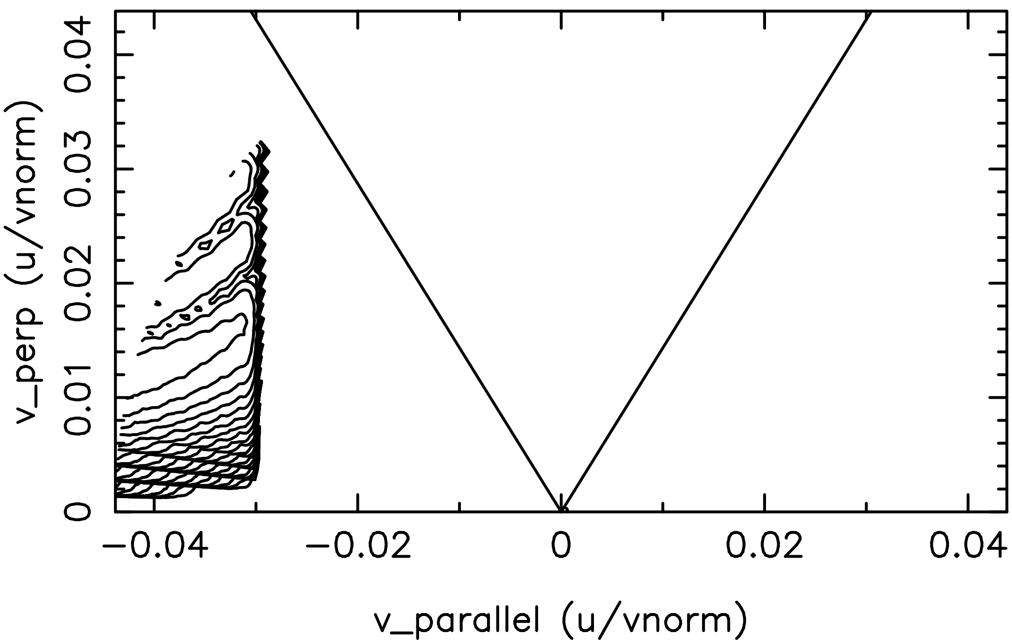
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 24; all modes
Max value for this surface/mode: 0.202E+03
Species k=2

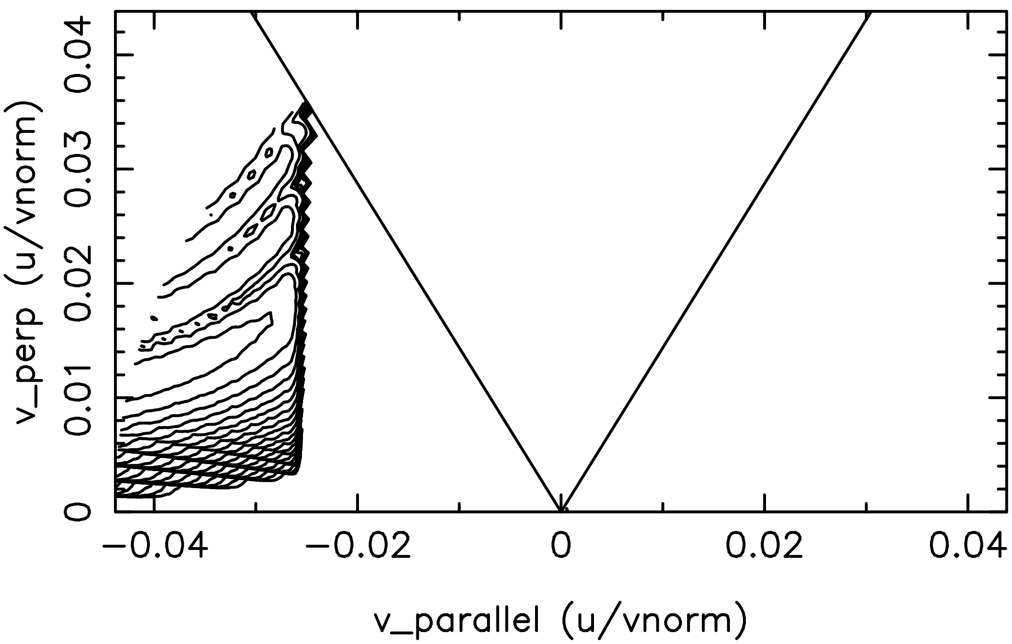
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.145E−05

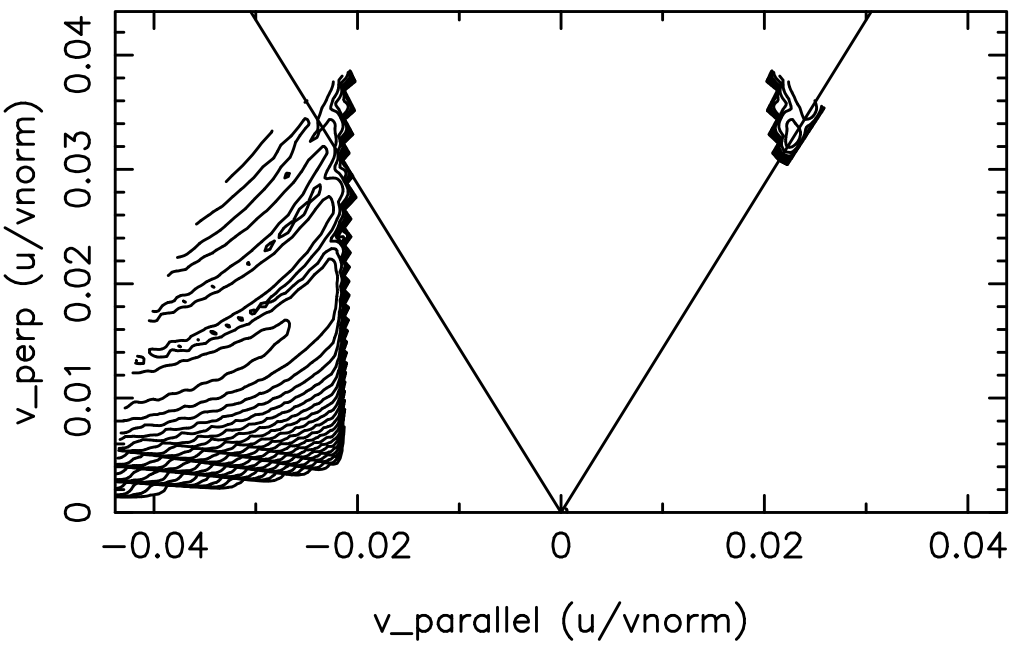
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 2 10; Species k=1
Max value for this surface/mode: 0.237E−05

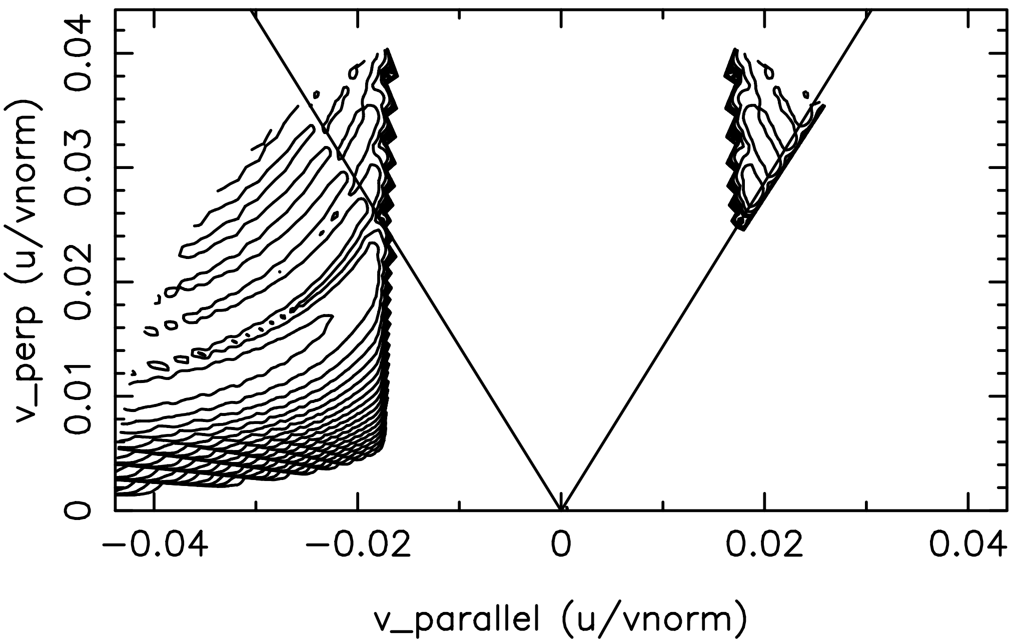
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 6.00E−01   radial position (r) = 1.53E+02 cm
rya= 6.000E−01   R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm=   3   11; Species k=1
Max value for this surface/mode: 0.323E−05

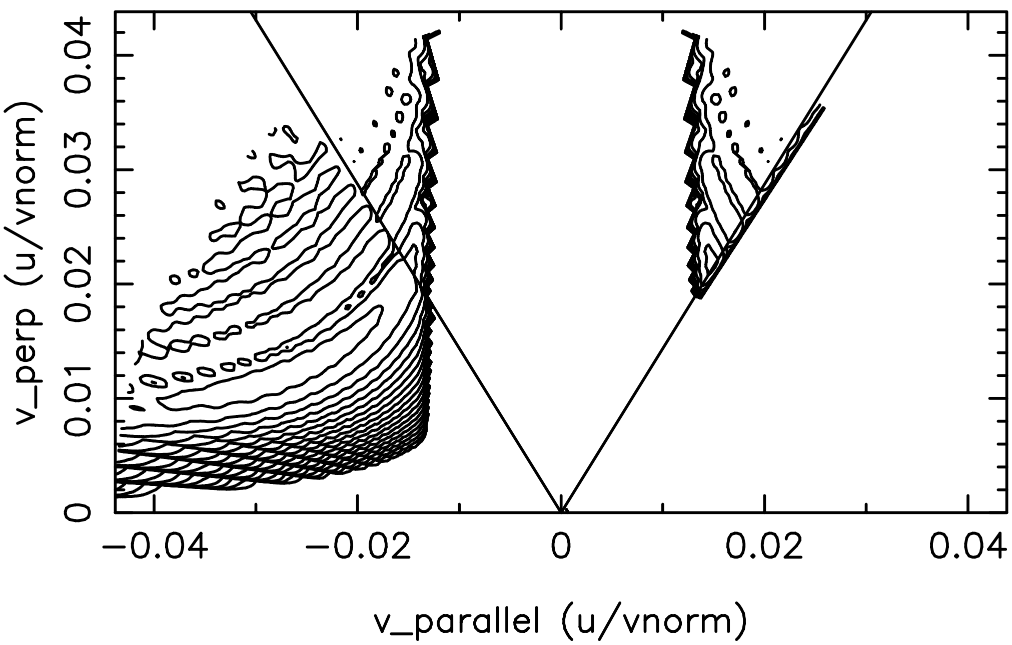
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 4 12; Species k=1
Max value for this surface/mode: 0.498E−05

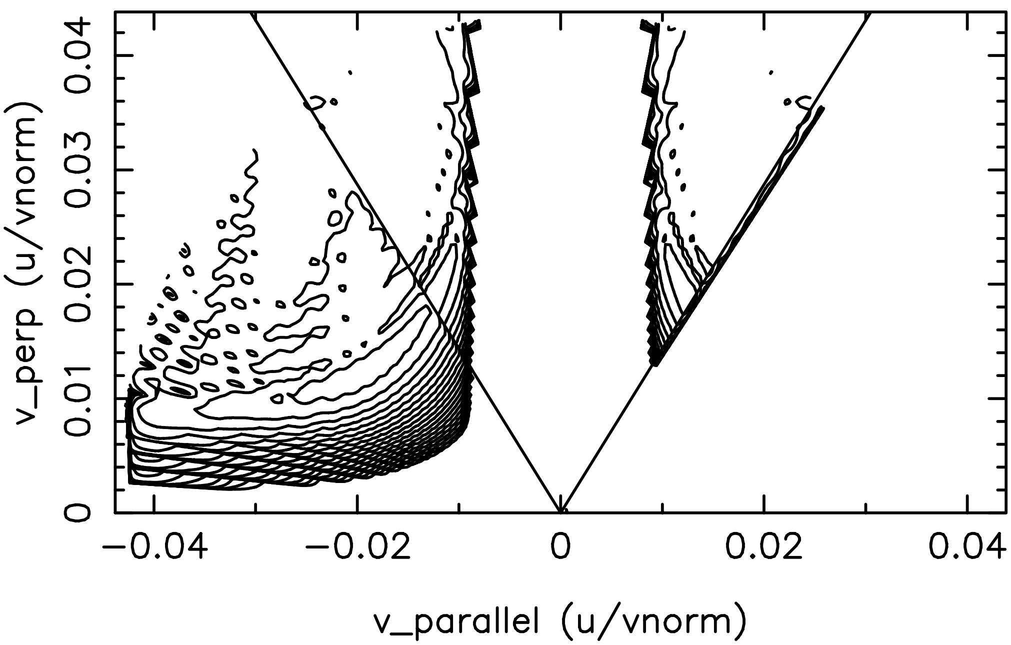
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 5 13; Species k=1
Max value for this surface/mode: 0.751E−05

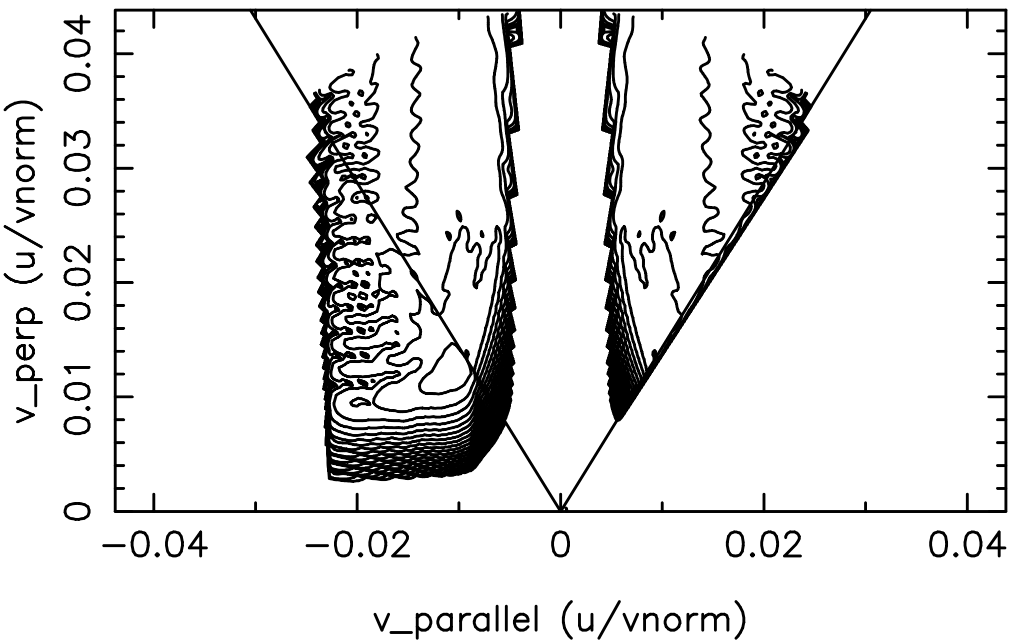
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 6 14; Species k=1
Max value for this surface/mode: 0.127E−04

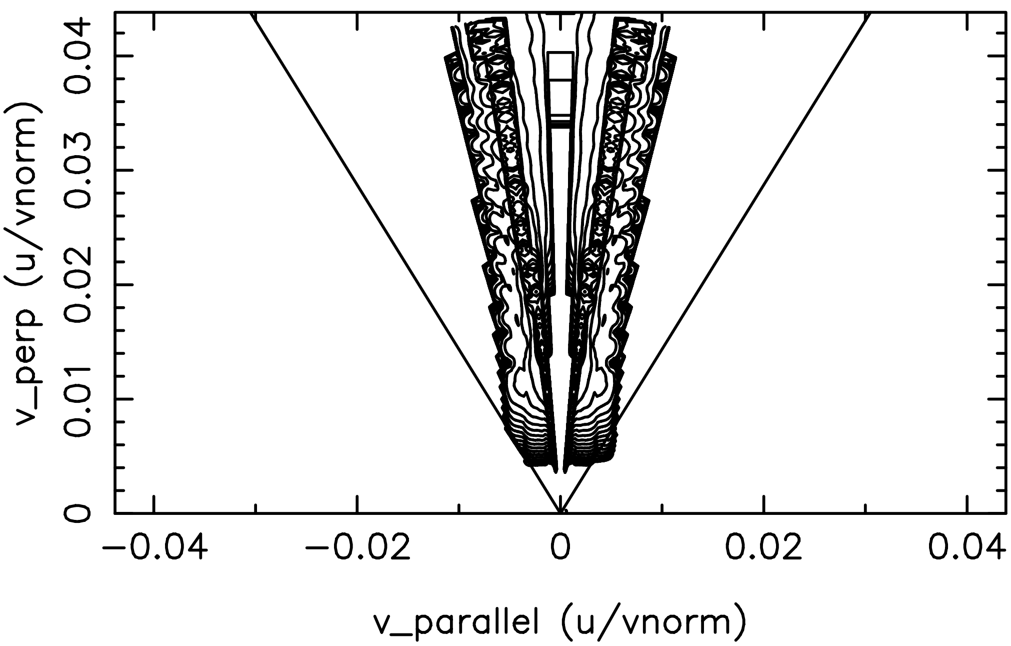
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 7 15; Species k=1
Max value for this surface/mode: 0.214E−04

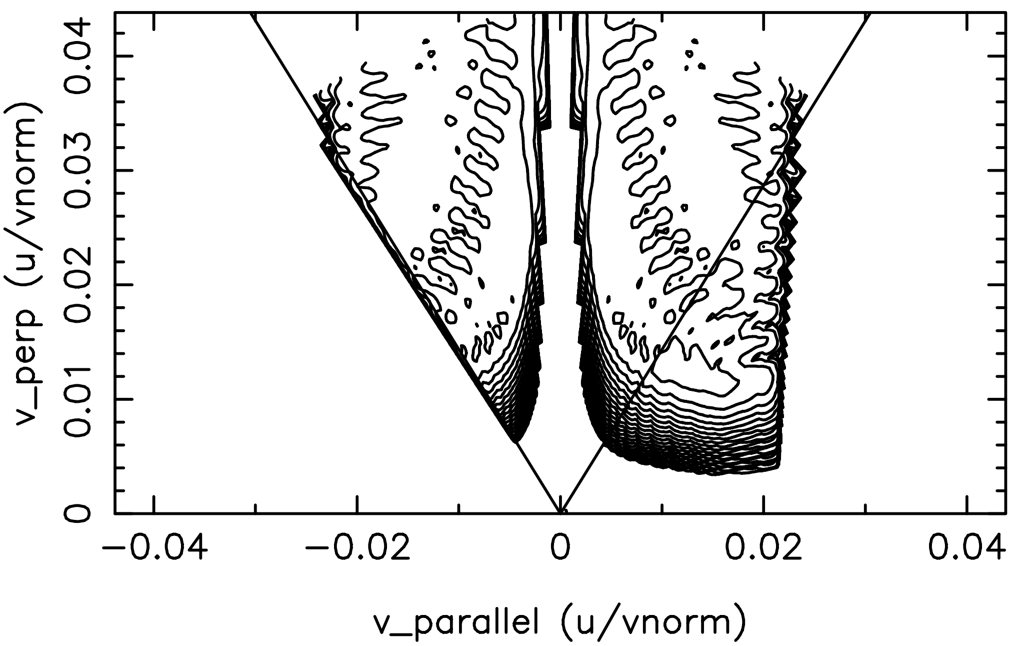
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E-01 radial position (r) = 1.53E+02 cm
rya= 6.000E-01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 8 16; Species k=1
Max value for this surface/mode: 0.350E-01

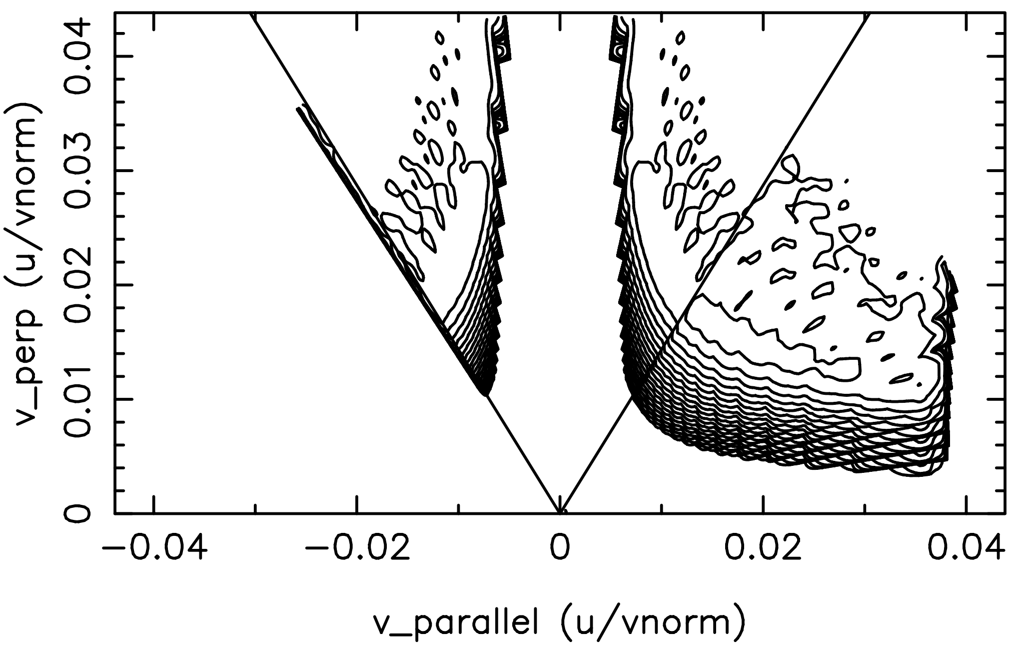
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.628E−04

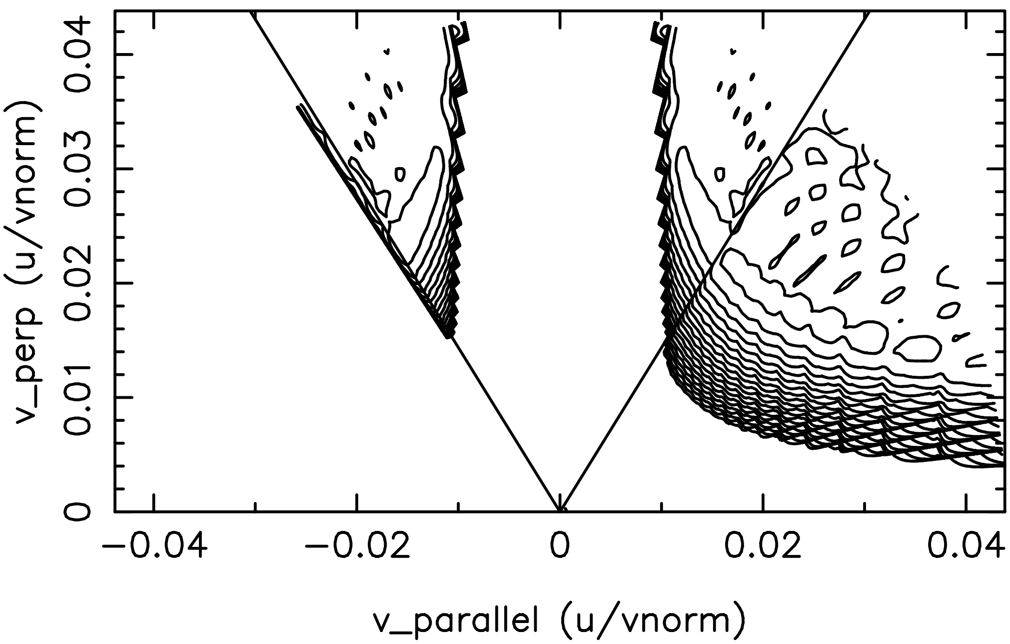
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 6.00E−01   radial position (r) = 1.53E+02 cm
rya= 6.000E−01   R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm=   10   18; Species k=1
Max value for this surface/mode: 0.108E−03

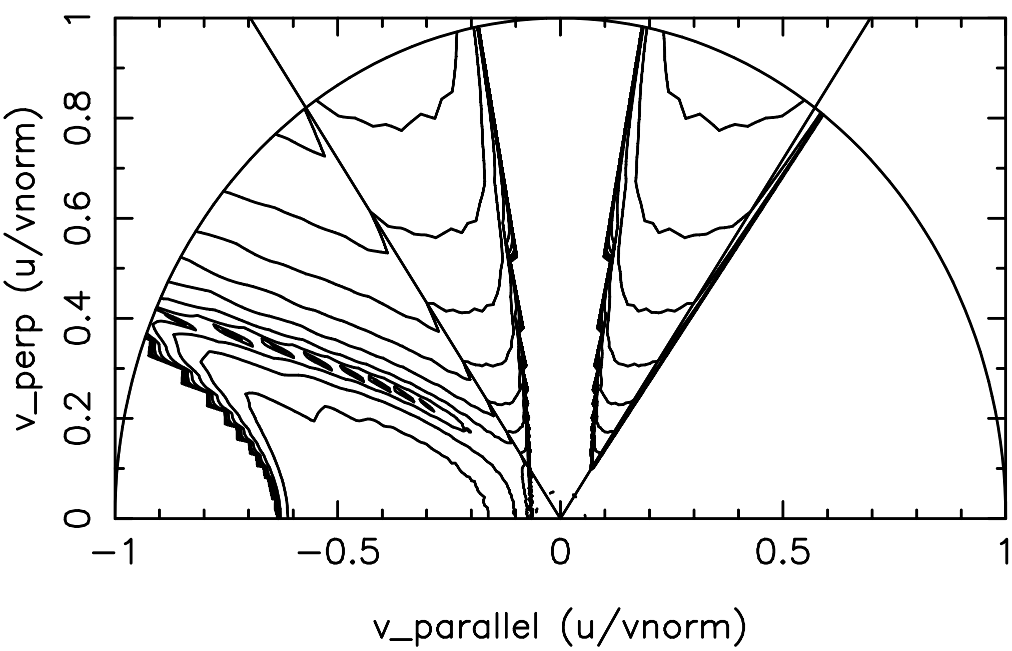
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 11 19; Species k=1
Max value for this surface/mode: 0.182E−03

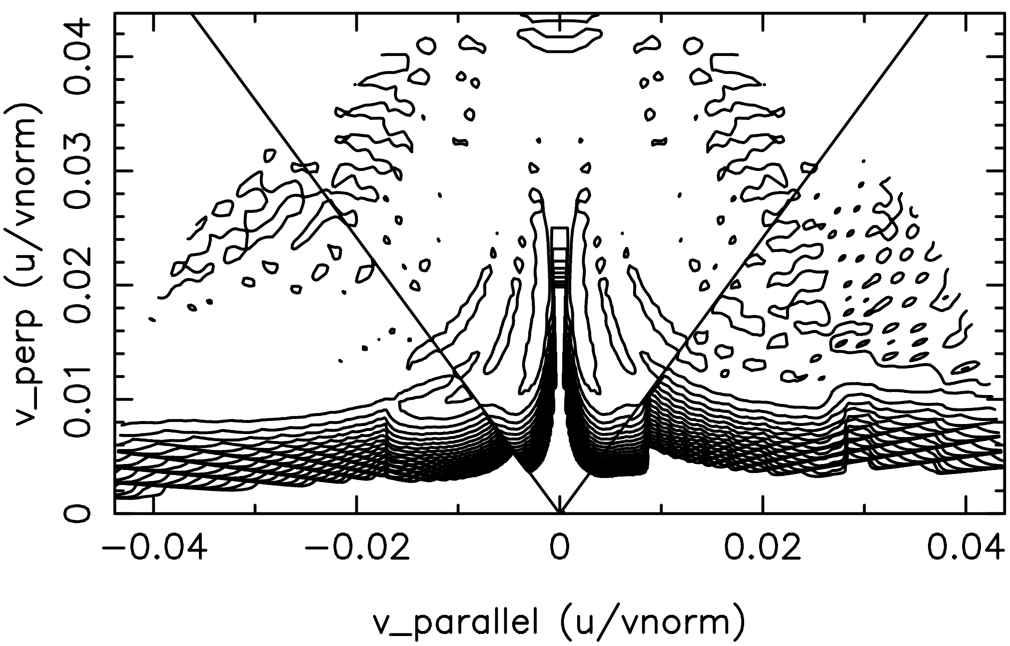
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 12 0; Species k=2
Max value for this surface/mode: 0.202E+03

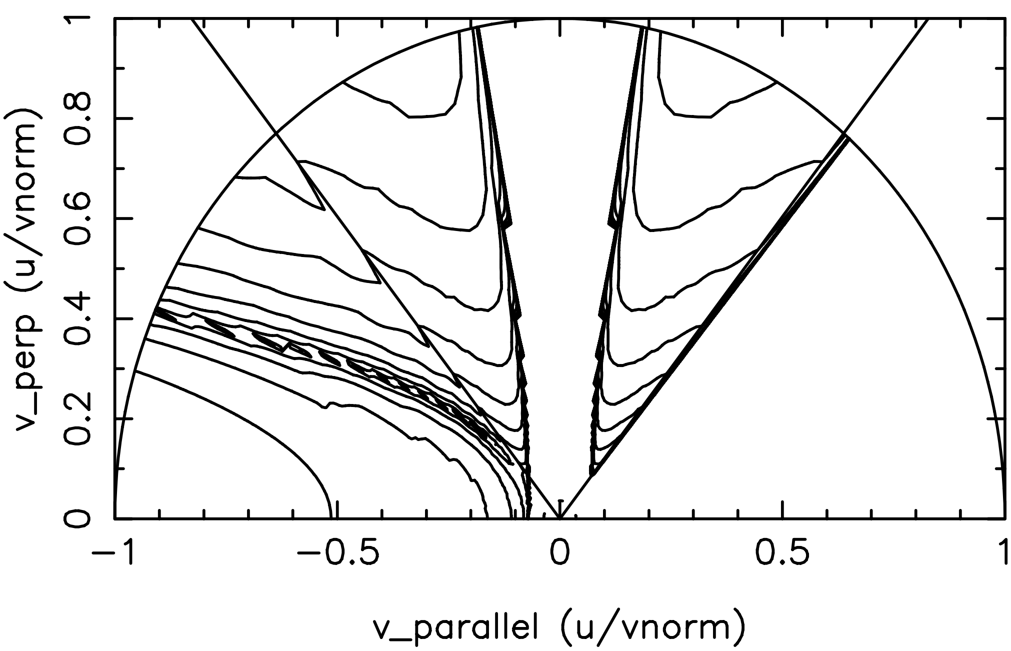
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 32; all modes
Max value for this surface/mode: 0.246E−03
Species k=1

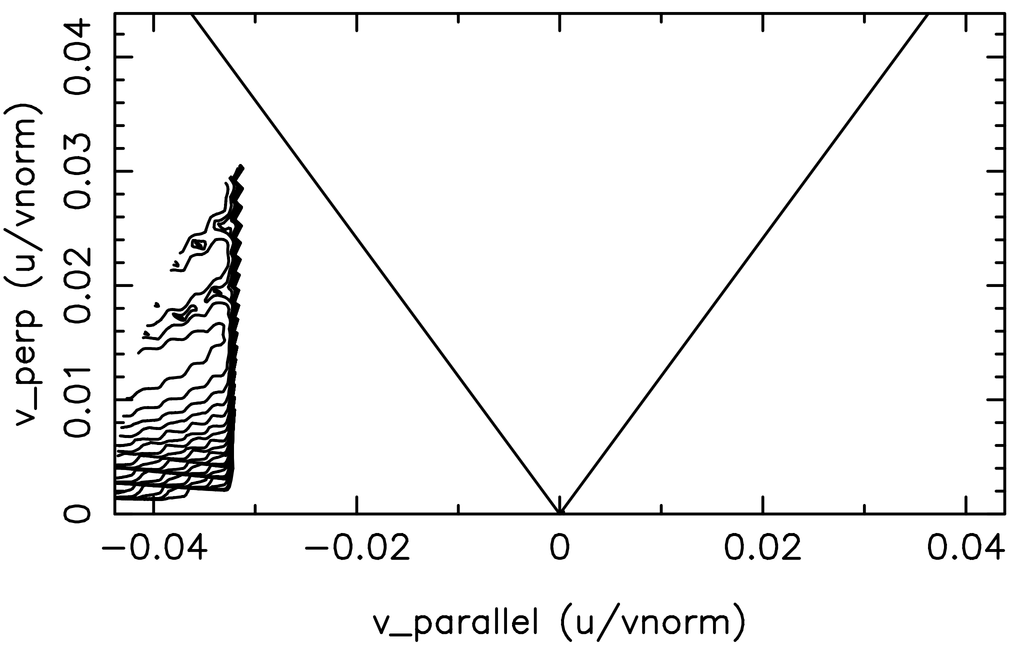
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

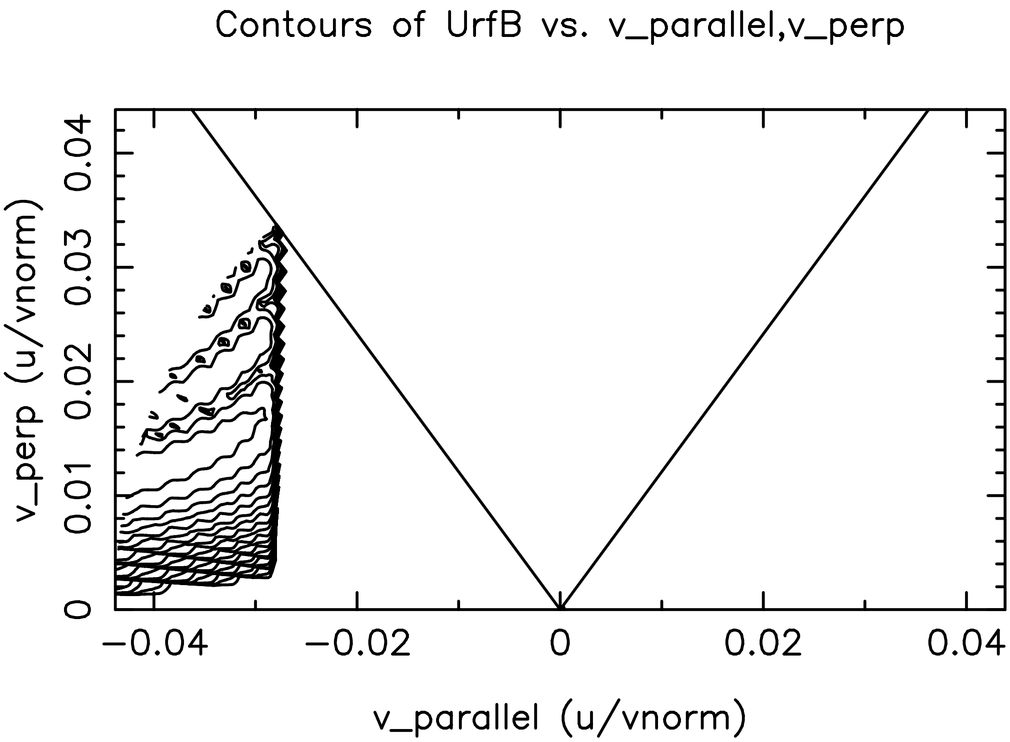
Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 32; all modes
Max value for this surface/mode: 0.259E+03
Species k=2

Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

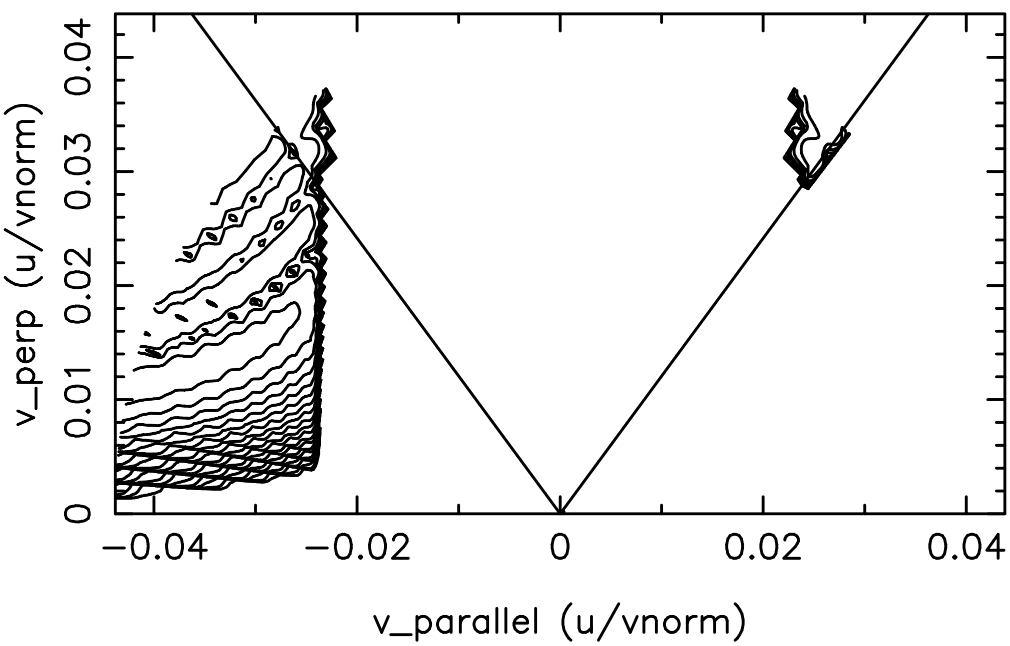
Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.149E−05



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E-01 radial position (r) = 2.04E+02 cm
rya= 8.000E-01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 2 10; Species k=1
Max value for this surface/mode: 0.198E-05

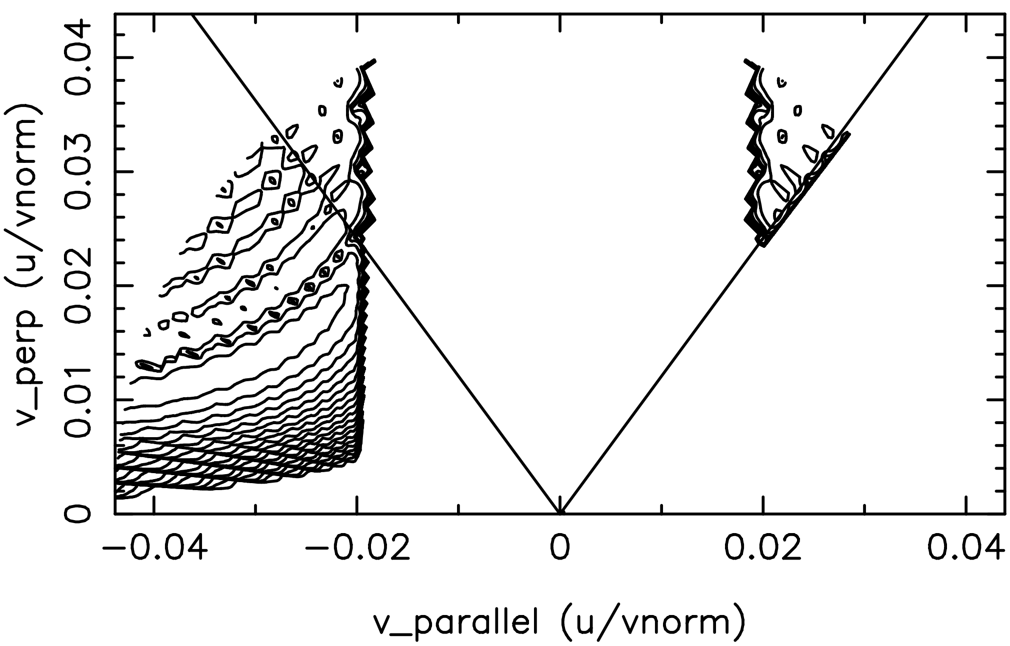
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 3 11; Species k=1
Max value for this surface/mode: 0.287E−05

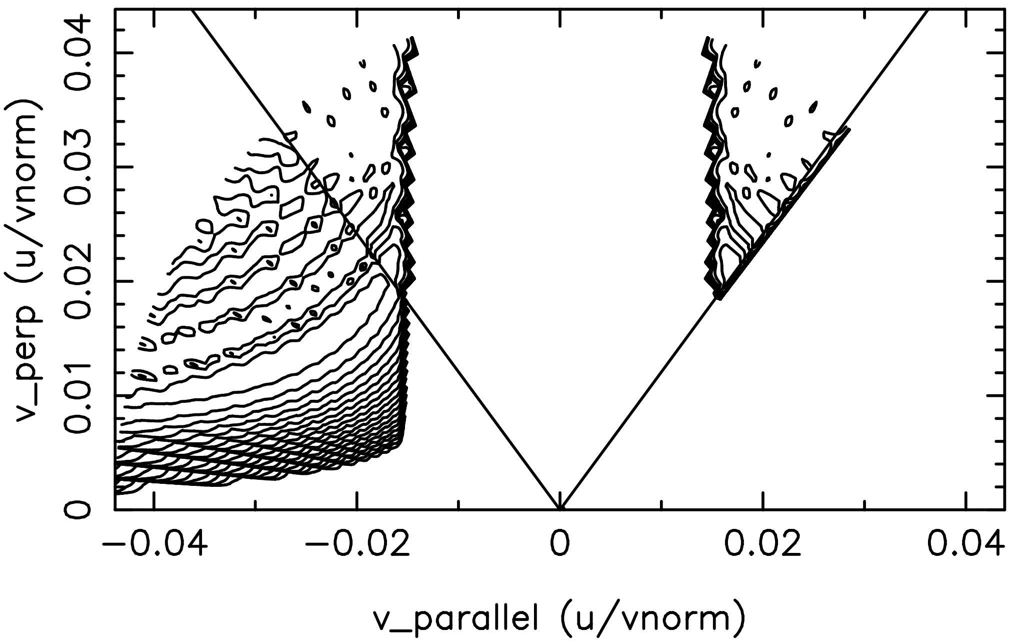
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm=   4   12; Species k=1
Max value for this surface/mode: 0.383E−05

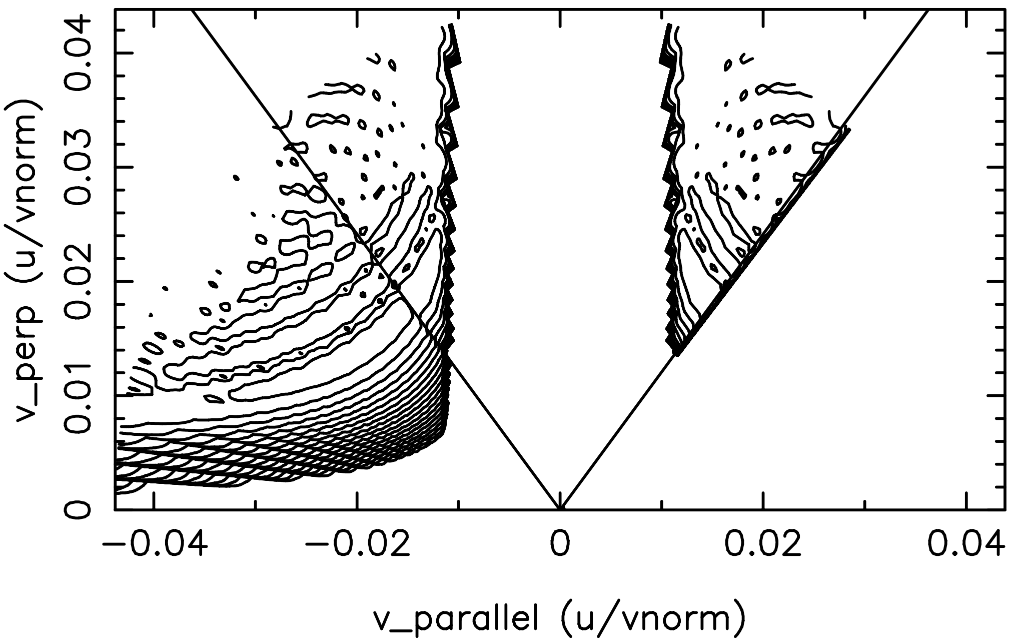
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 5 13; Species k=1
Max value for this surface/mode: 0.545E−05

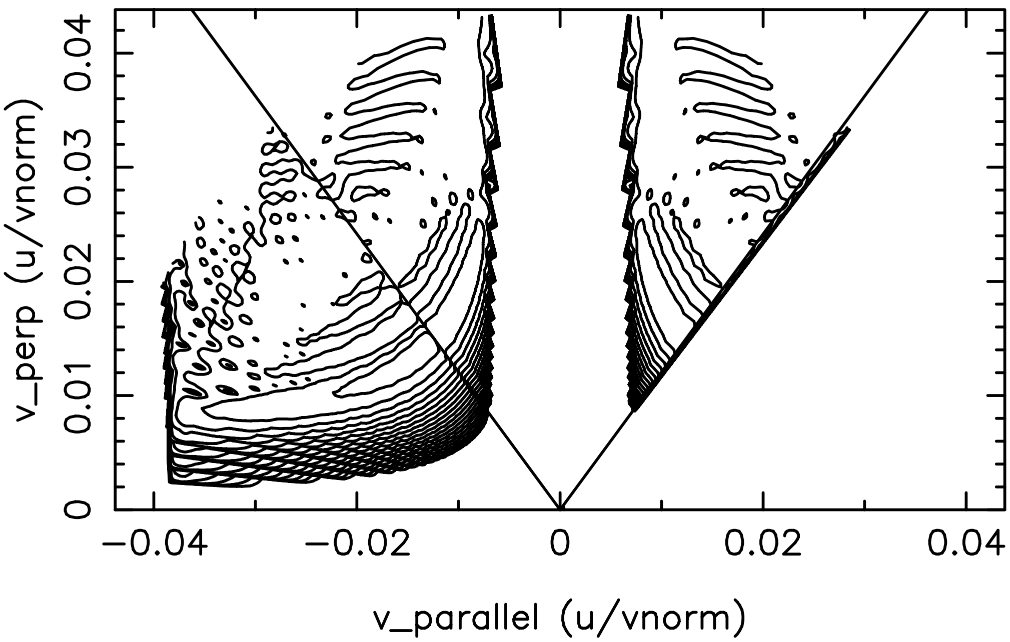
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm=   6   14; Species k=1
Max value for this surface/mode: 0.815E−05

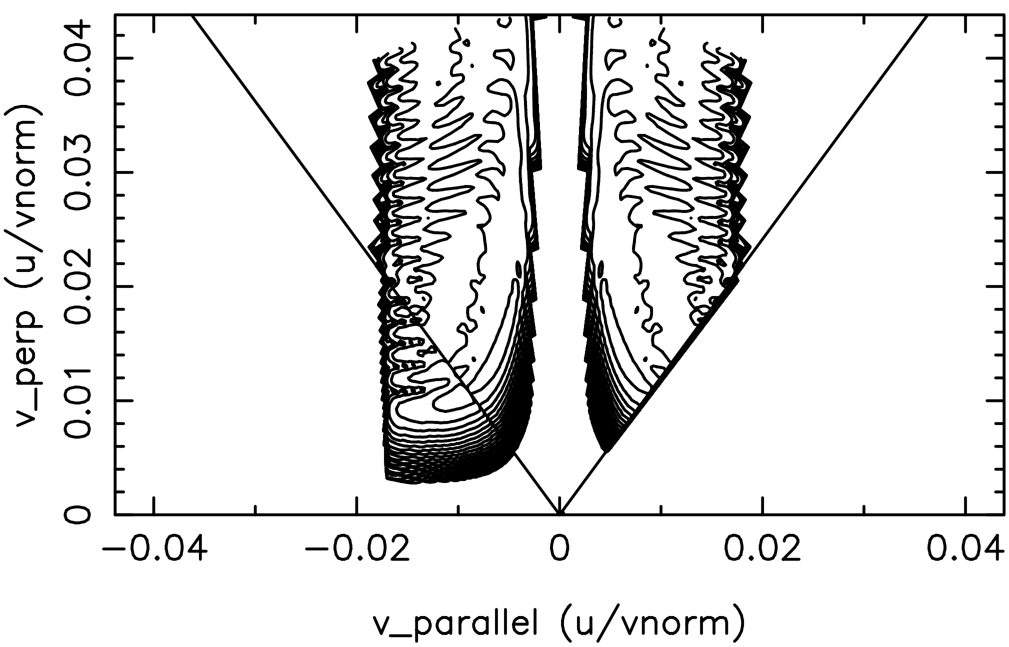
Contours of UrfB vs. v_parallel,v_perp



time step n= 0   time= 0.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm=   7   15; Species k=1
Max value for this surface/mode: 0.136E−04

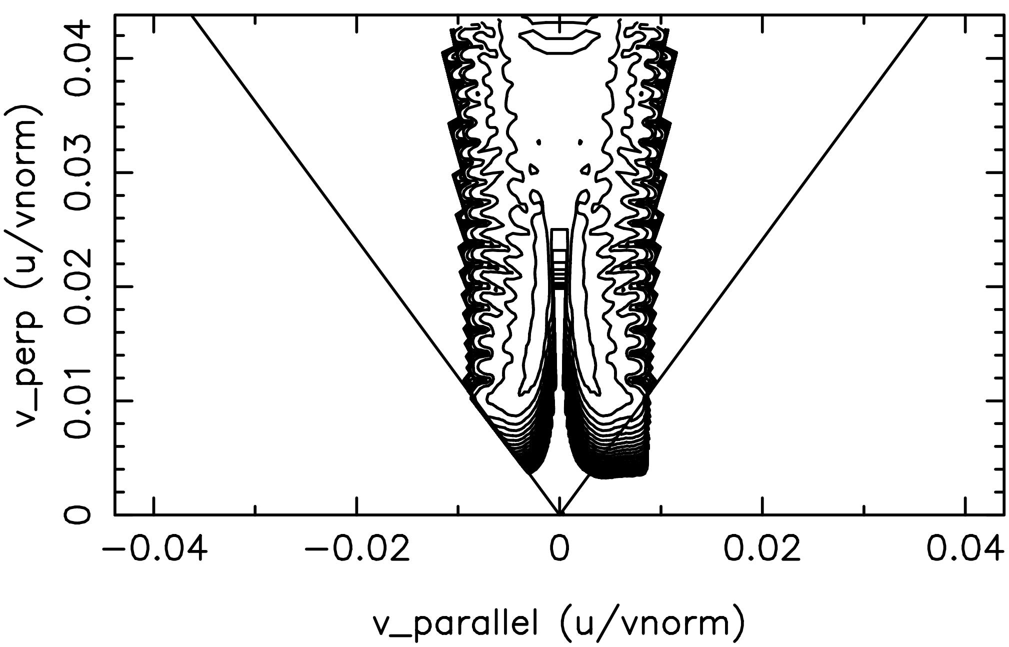
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 8 16; Species k=1
Max value for this surface/mode: 0.177E−04

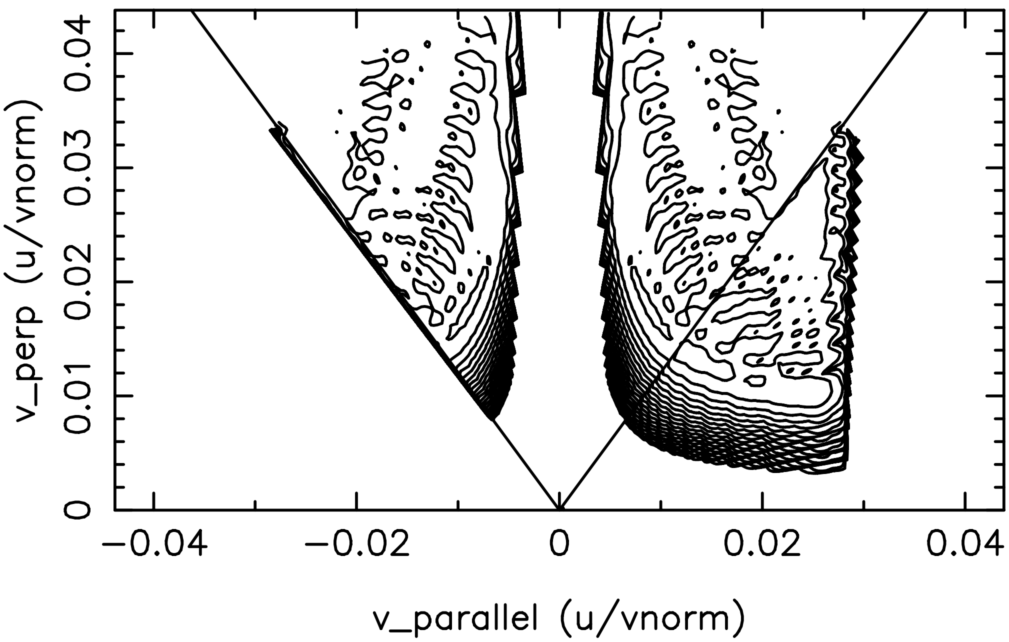
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E-01 radial position (r) = 2.04E+02 cm
rya= 8.000E-01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.764E-04

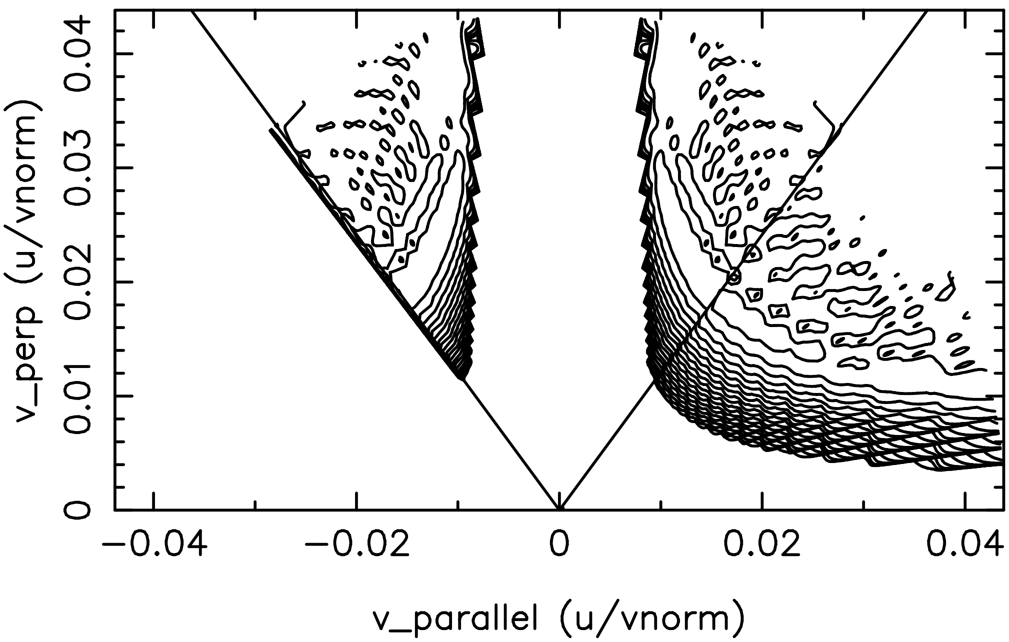
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 10 18; Species k=1
Max value for this surface/mode: 0.155E−03

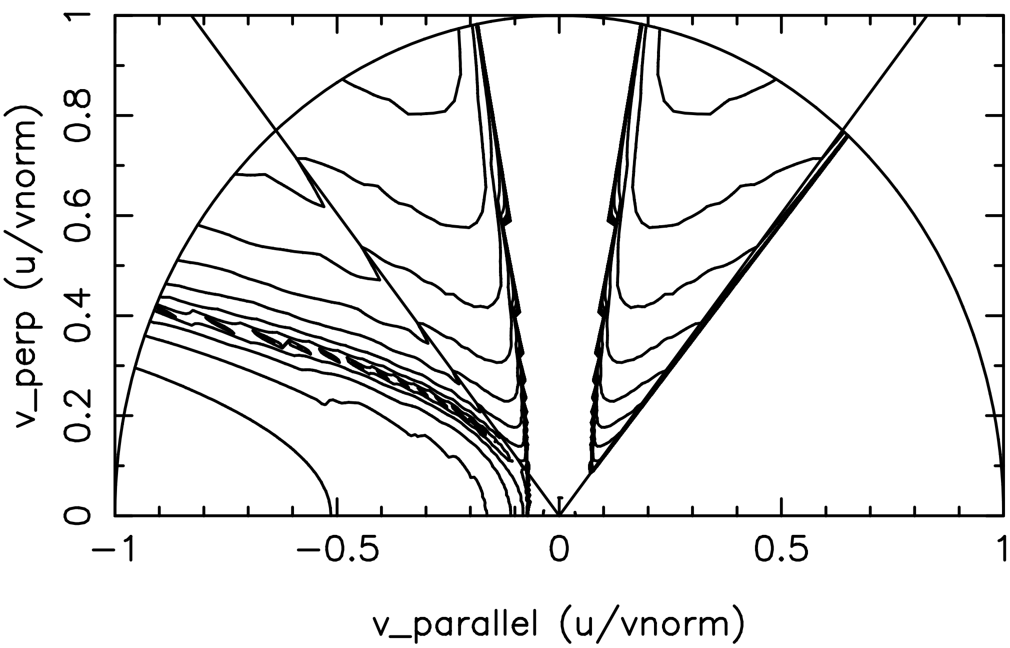
Contours of UrfB vs. v_parallel,v_perp



time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

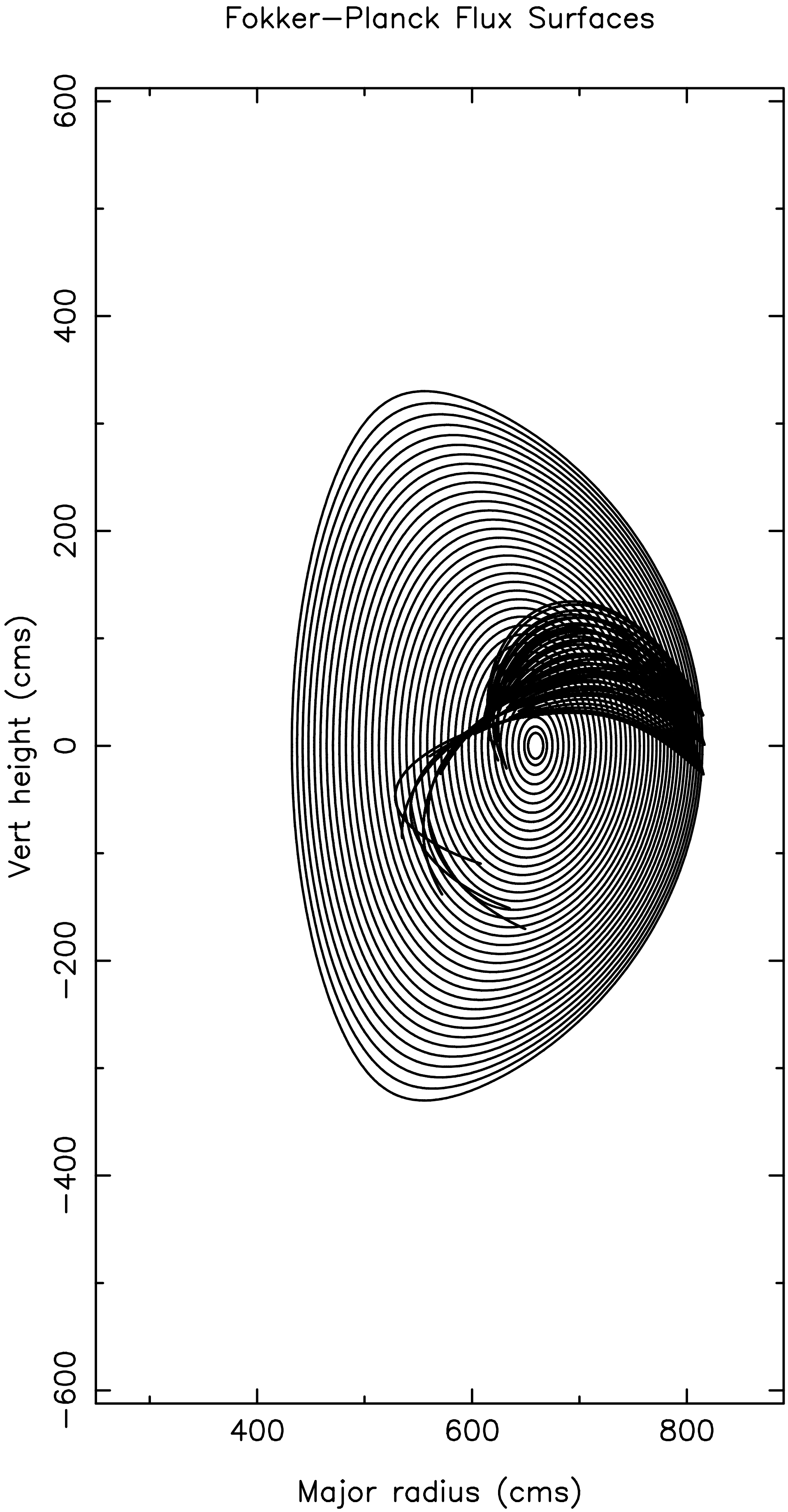
Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 11 19; Species k=1
Max value for this surface/mode: 0.244E−03

Contours of UrfB vs. v_parallel,v_perp



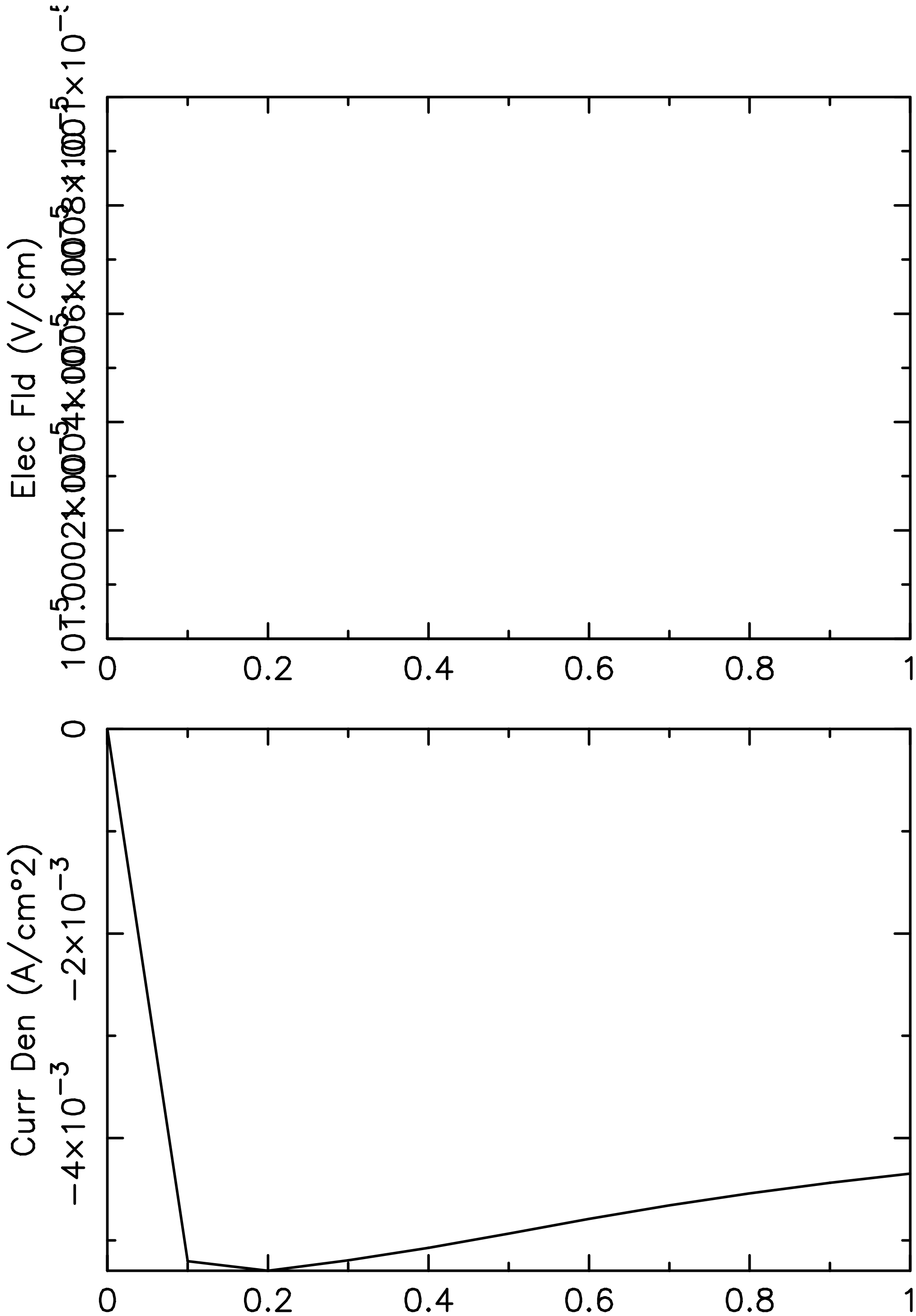
time step n= 0 time= 0.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 12 0; Species k=2
Max value for this surface/mode: 0.259E+03


Fokker−Planck Flux Surfaces
Vert height (cms)
Major radius (cms)
600
400
200
0
−200
−400
−600
400
600
800

LOCAL RADIAL QUANTITIES

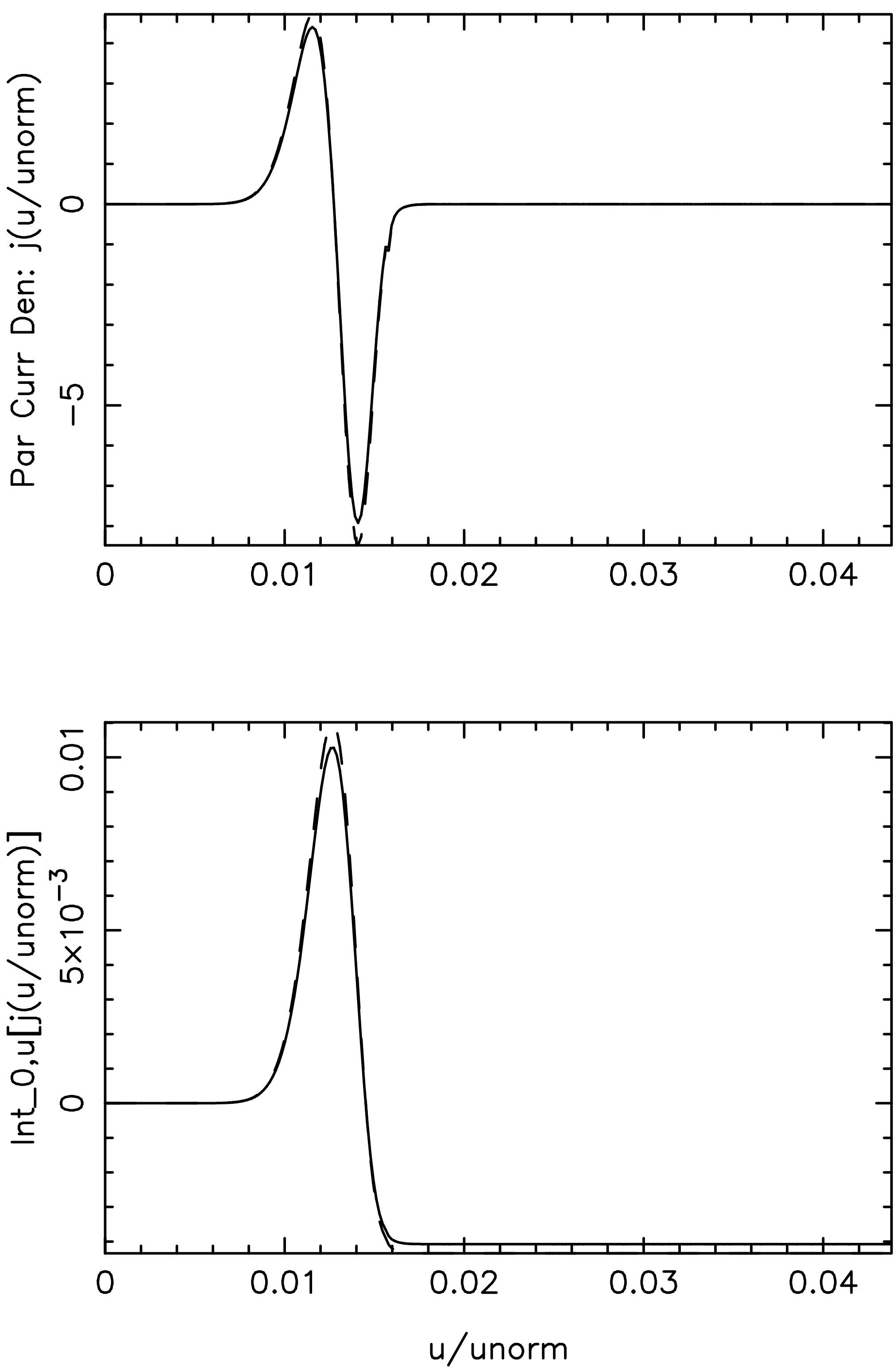
time step n= 10,   time= 1.0000E+00 secs
flux surf= 8   total flux surfs= 38
r/a= 2.00E−01   radial position (r) = 5.10E+01 cms
rya= 2.000E−01   R=rpcon= 7.002E+02 cm
enorm (kev) =   1000.000
vnorm/c =   2.78273
vthe (sqrt(te/me))/c =   0.25671
vthe/vnorm =   0.09225
k= 1 vth(k)/vnorm =   0.00107
k= 2 vth(k)/vnorm =   0.09225
k= 3 vth(k)/vnorm =   0.00107
k= 4 vth(k)/vnorm =   0.00151
k= 5 vth(k)/vnorm =   0.00123
k= 6 vth(k)/vnorm =   0.00071
k= 7 vth(k)/vnorm =   0.00034
k= 8 vth(k)/vnorm =   0.09225



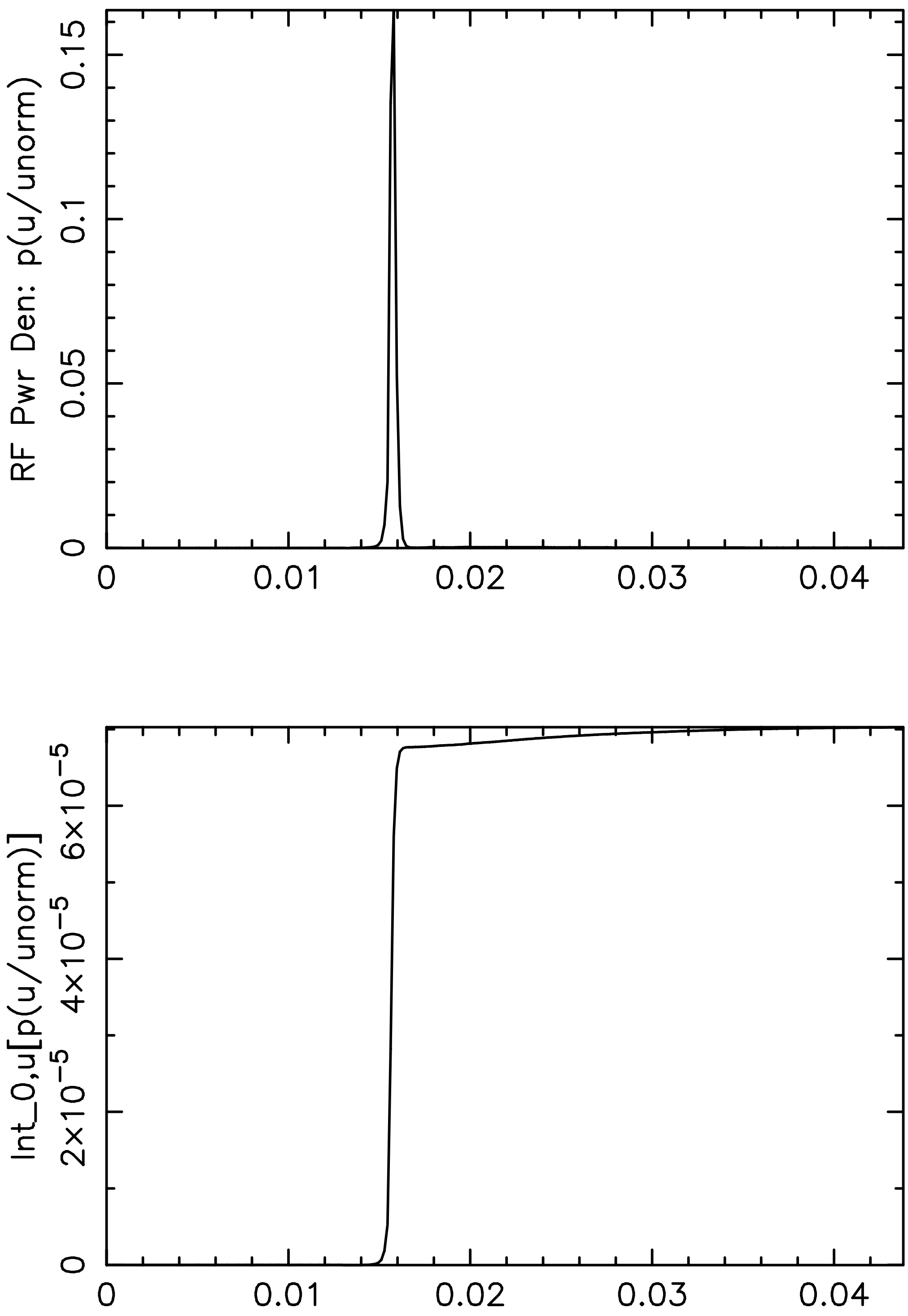
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = −4.3482E−03 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = −1.5048E−02 A/W

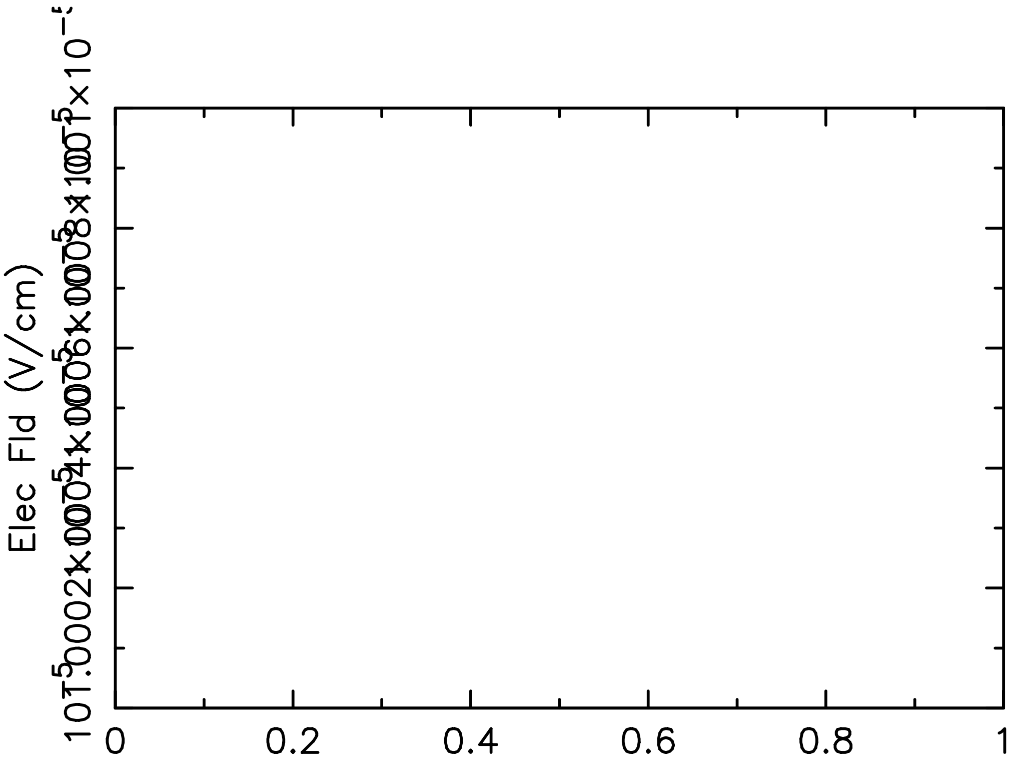
Solid: midplane; Dashed: <..>_FSA

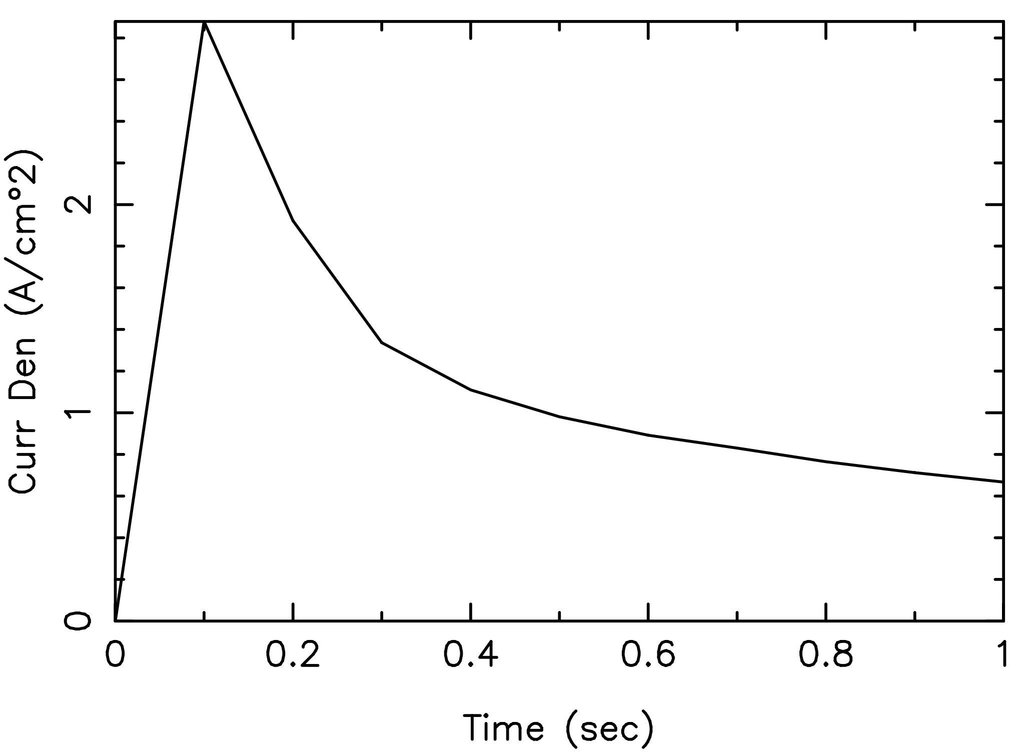


Species: 1 Current(FSA)=−.4340E−02 Amps/cm^2



Species: 1 Power =0.7026E−04 Watts/cc

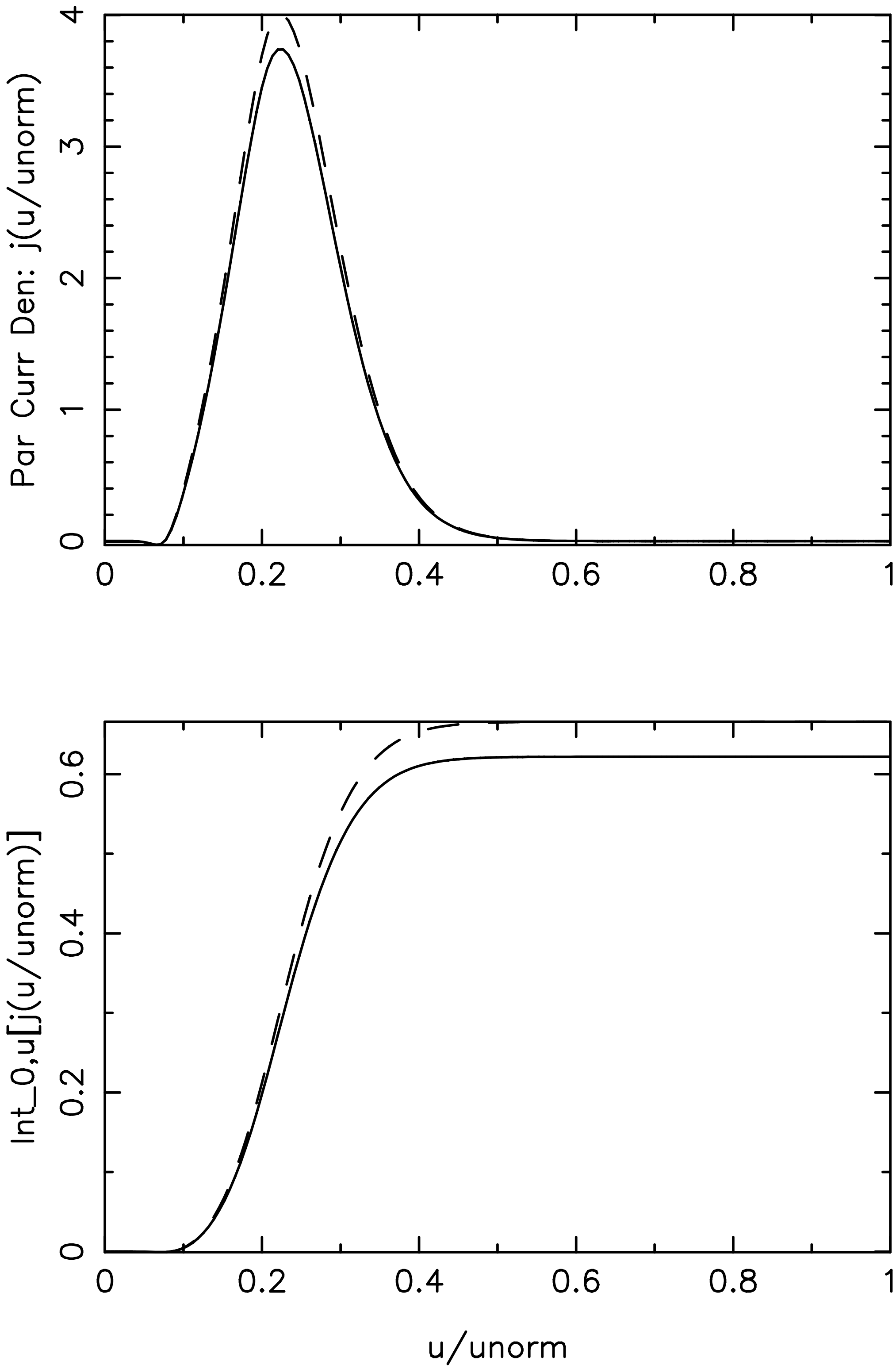




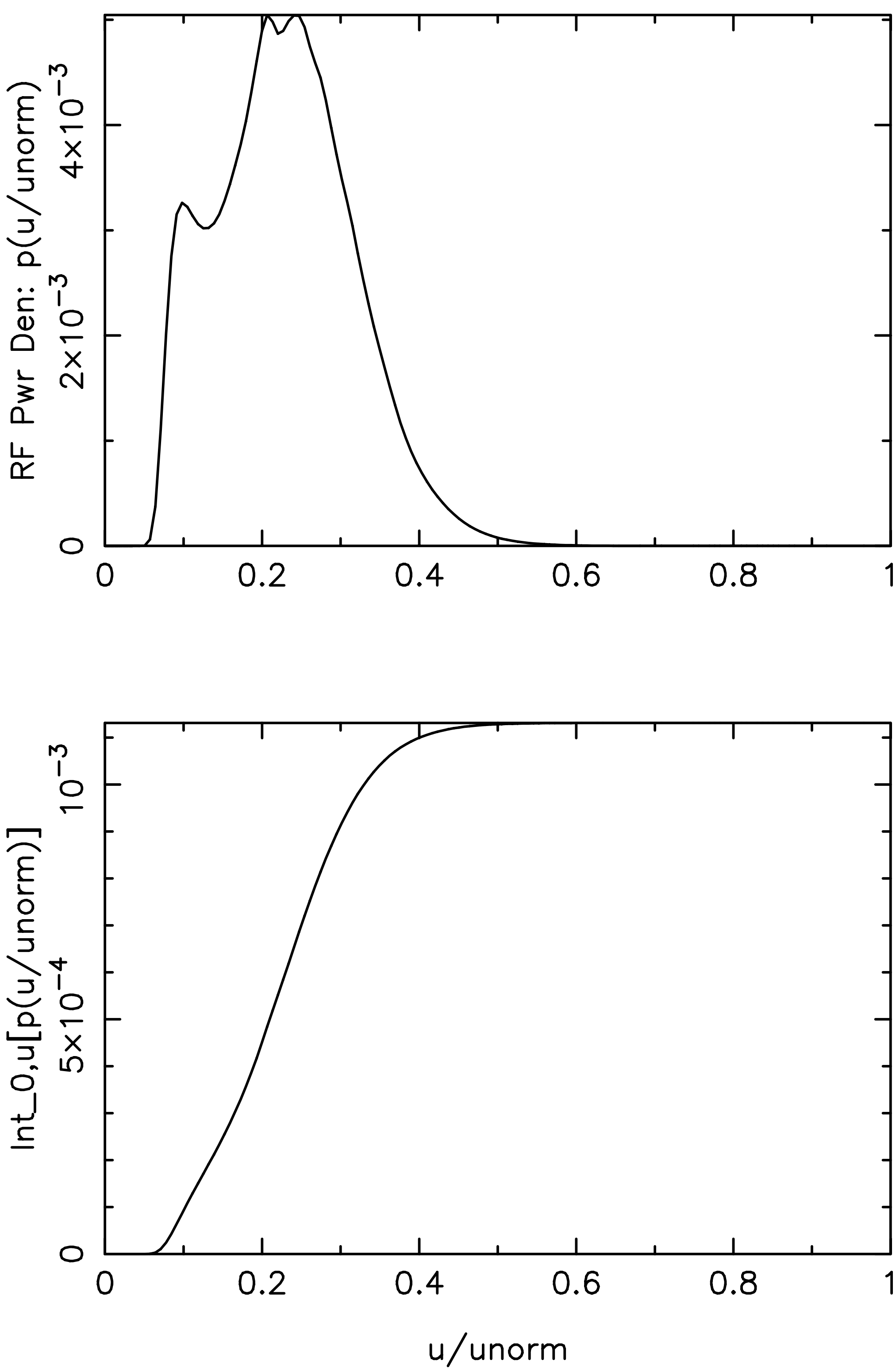
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 6.6690E−01 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 1.4333E−01 A/W
Electron current (units ne*q*vth(kelec,lr_)) = 9.0181E−06
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 1.0285E−06
efficiency (j/p) (Fisch 1978 units) = 8.7686E+00
efficiency (j/p) (e/(m*c*nu_c units) = 5.7785E−01
vth(kelec,lr_) = sqrt(T/m) = 7.6960E+09 cm/sec
nu0 = 3.3960E+03 Hz

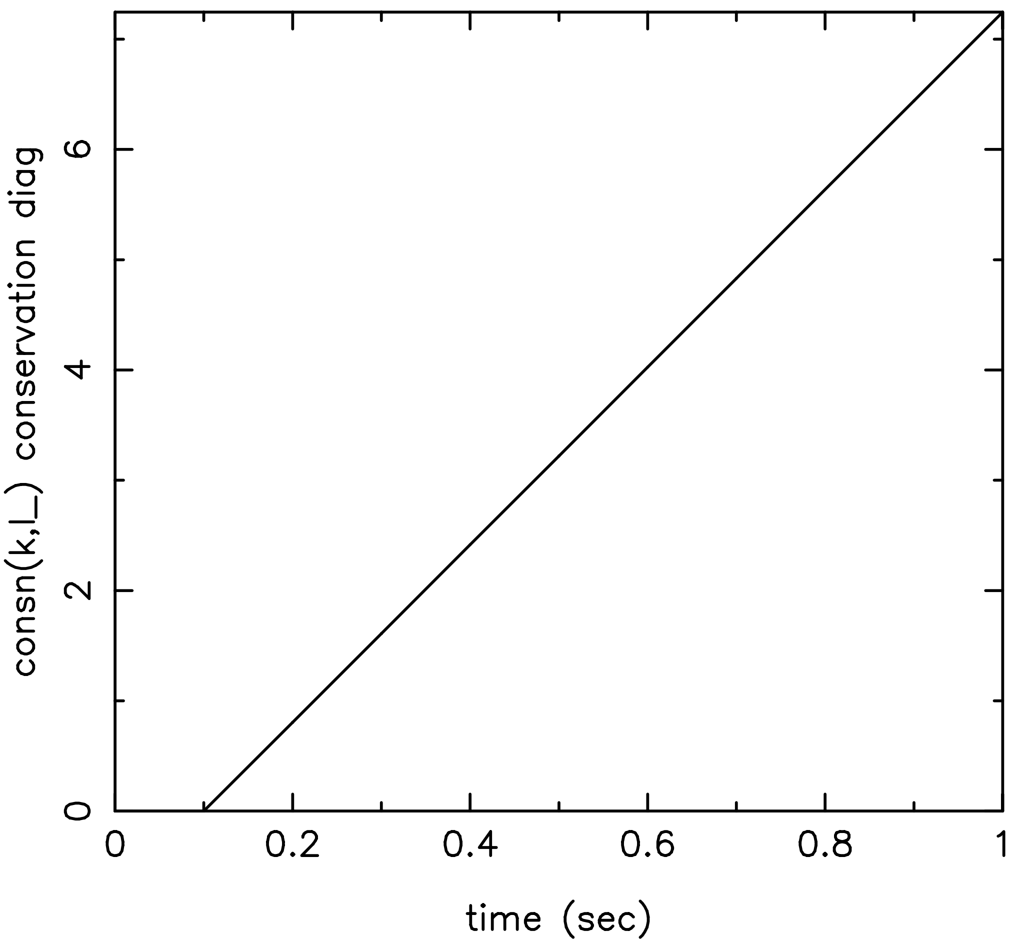
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.6658E+00 Amps/cm^2

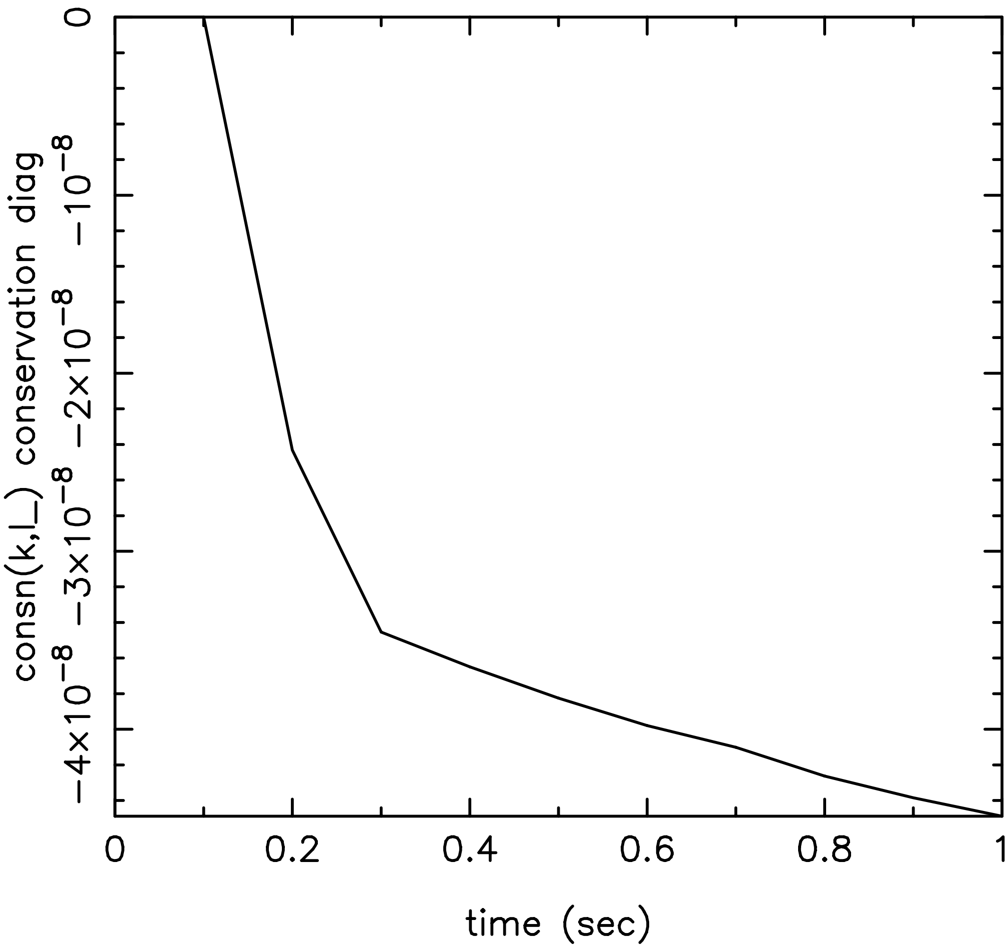


Species: 2 Power =0.1131E-02 Watts/cc



consn(k,l_)= 7.2464E+00
Perfect conservation should yield machine accuracy,
or about 1.e−14:

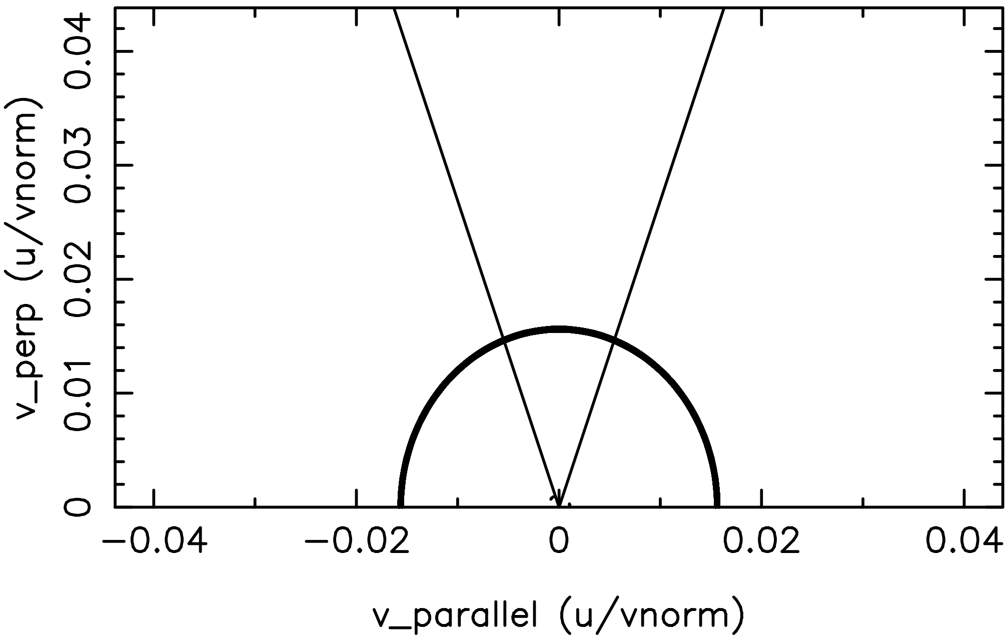
time step (n) is 10 time= 1.0000E+00 secs Species k= 1
r/a= 2.0000E−01 radial position (r) = 7.0017E+02 cm



consn(k,l_)= −4.4885E−08
Perfect conservation should yield machine accuracy,
or about 1.e−14:

time step (n) is 10 time= 1.0000E+00 secs Species k= 2
r/a= 2.0000E−01 radial position (r) = 7.0017E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 10   time= 1.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf# 8

NBI source rate= 0.0000E+00 ptcls/cc/sec

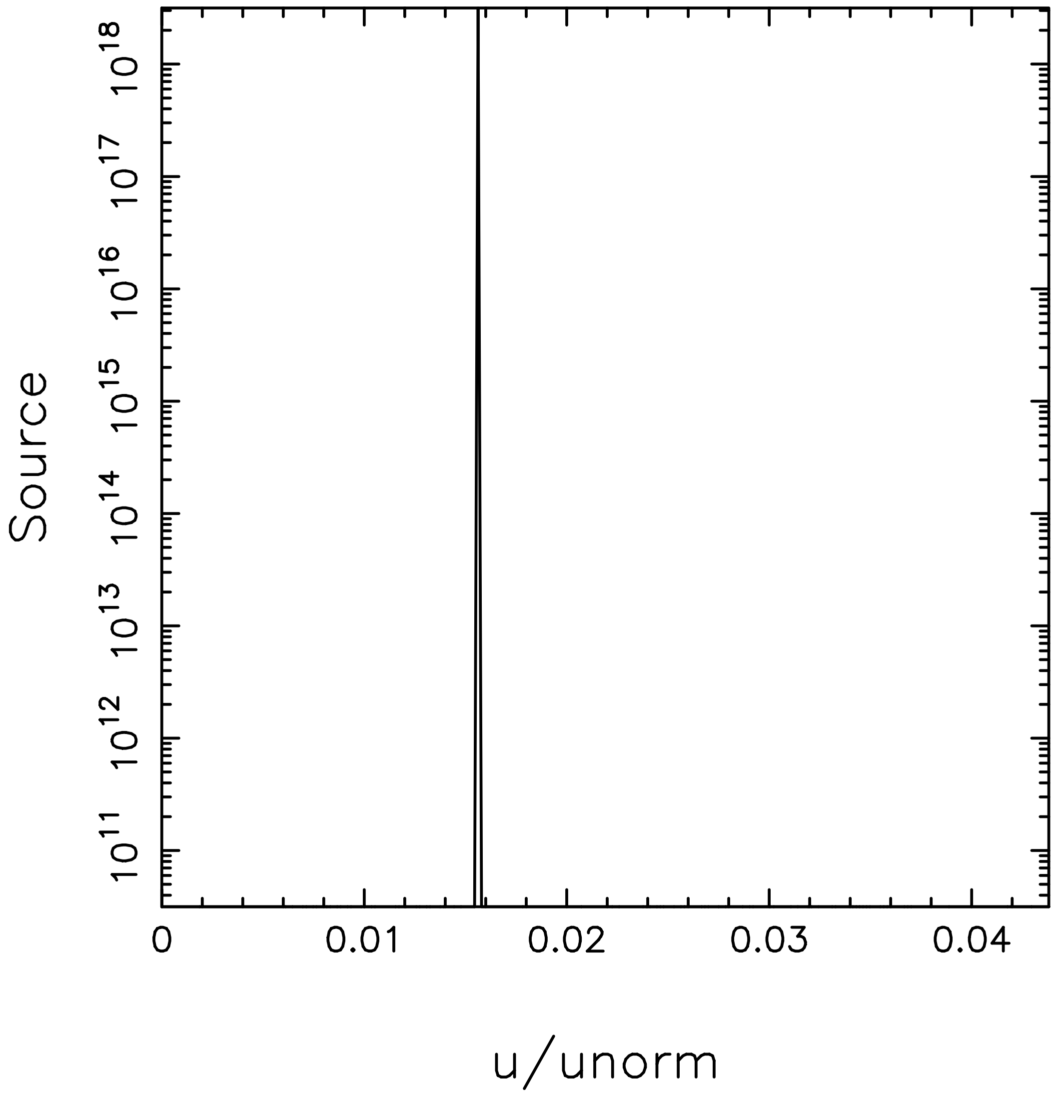
FUS source rate= 4.1643E+11 ptcls/cc/sec

Total source power [entr(..5..)]= 2.3485E−01 W/cc

Contour values:

1.6638E+06	6.6238E+06	2.6370E+07	1.0498E+08
4.1794E+08	1.6638E+09	6.6238E+09	2.6370E+10
1.0498E+11	4.1794E+11	1.6638E+12	6.6238E+12
2.6370E+13	1.0498E+14	4.1794E+14	1.6638E+15
6.6238E+15	2.6370E+16	1.0498E+17	4.1794E+17

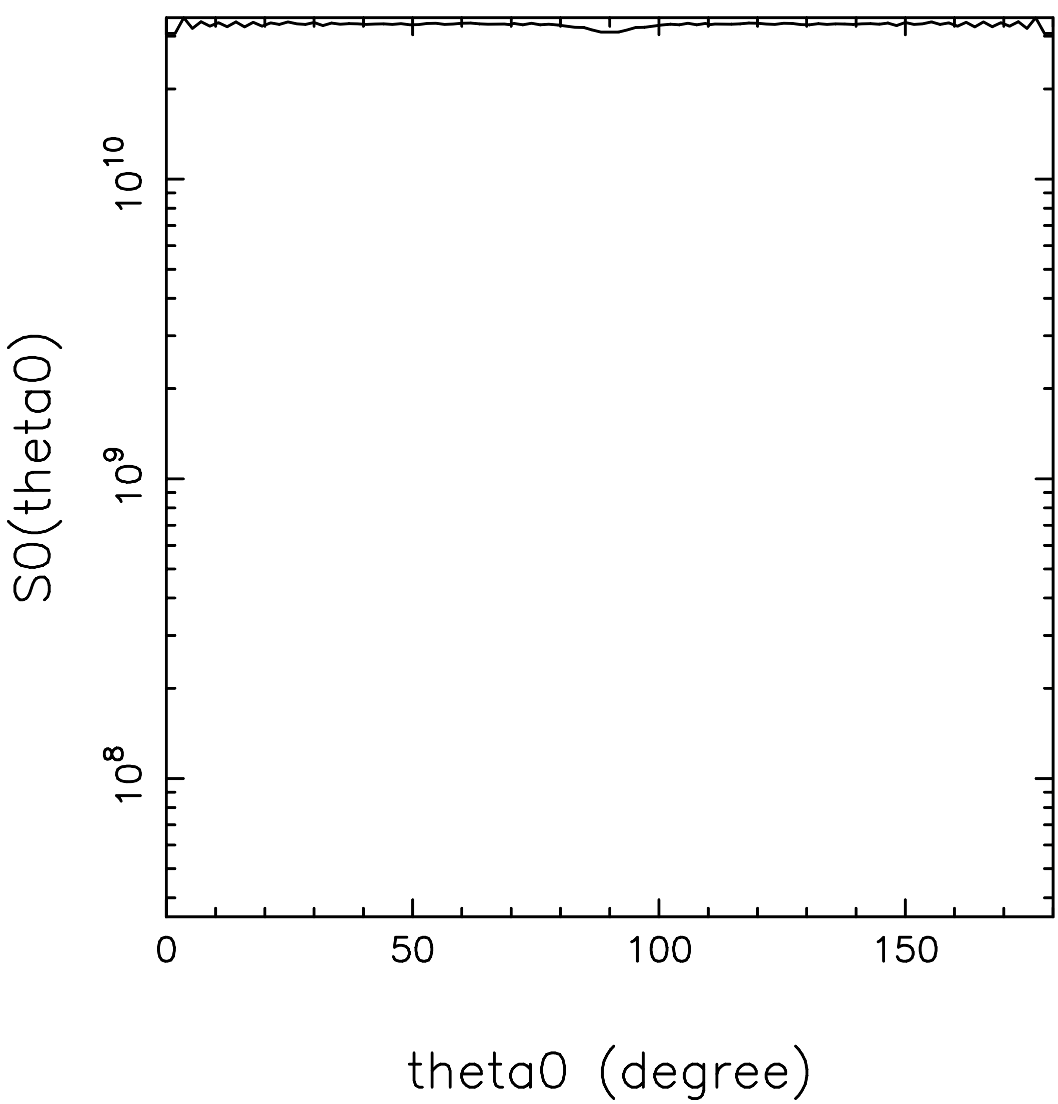
Pitch Angle Avg Source vs. u



Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm=   8.3424E+10 cm/s

time step (n) is 10   time= 1.0000E+00 secs
r/a= 2.0000E-01   radial position (r) = 7.0017E+02 cm

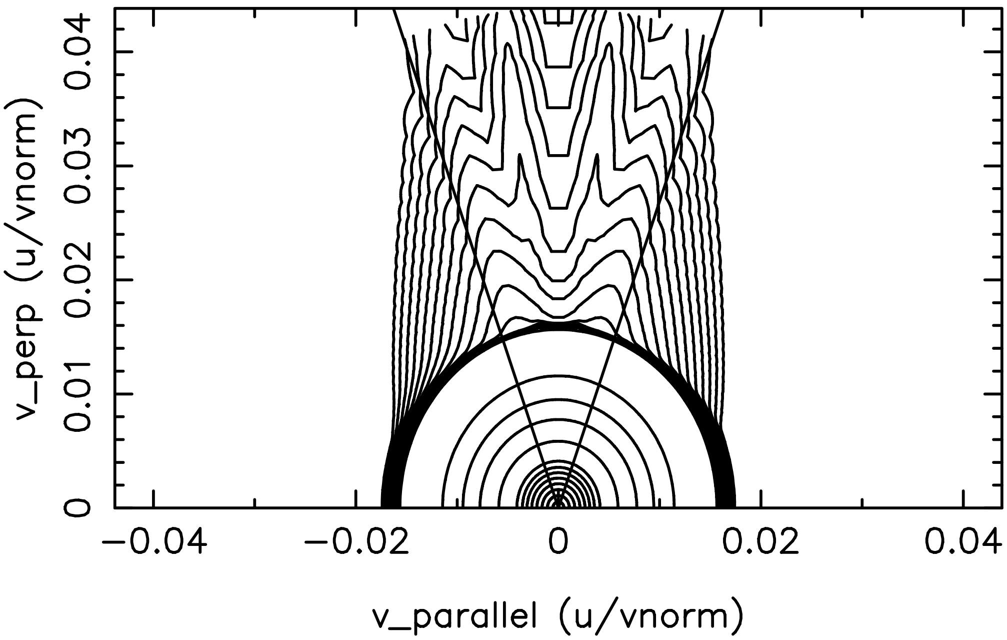
v−integrated Source



Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 10 time= 1.0000E+00 secs
r/a= 2.0000E−01 radial position (r) = 7.0017E+02 cm

Species 1 Distribution Function Contour Plot

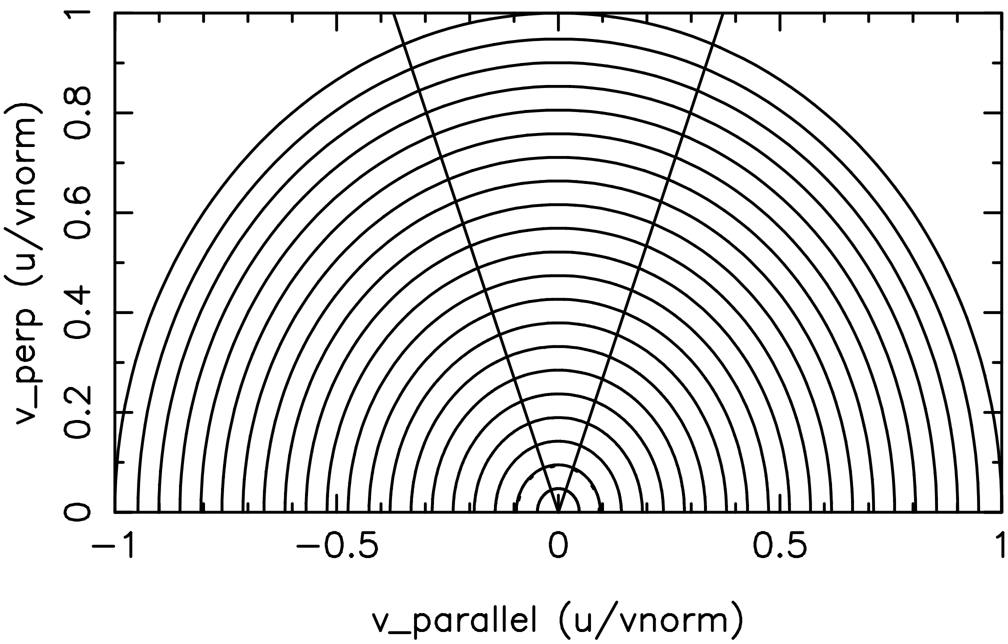


time step n= 10   time= 1.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf# 8

Contour values:

4.568526E+17	3.111173E+17	1.672656E+17	7.280670E+16
2.640014E+16	8.203550E+15	2.241733E+15	5.509032E+14
1.240565E+14	2.599563E+13	5.132680E+12	9.645730E+11
1.739453E+11	3.029989E+10	5.125618E+09	8.457211E+08
1.365973E+08	2.166100E+07	3.380683E+06	5.203716E+05

Species 2 Distribution Function Contour Plot



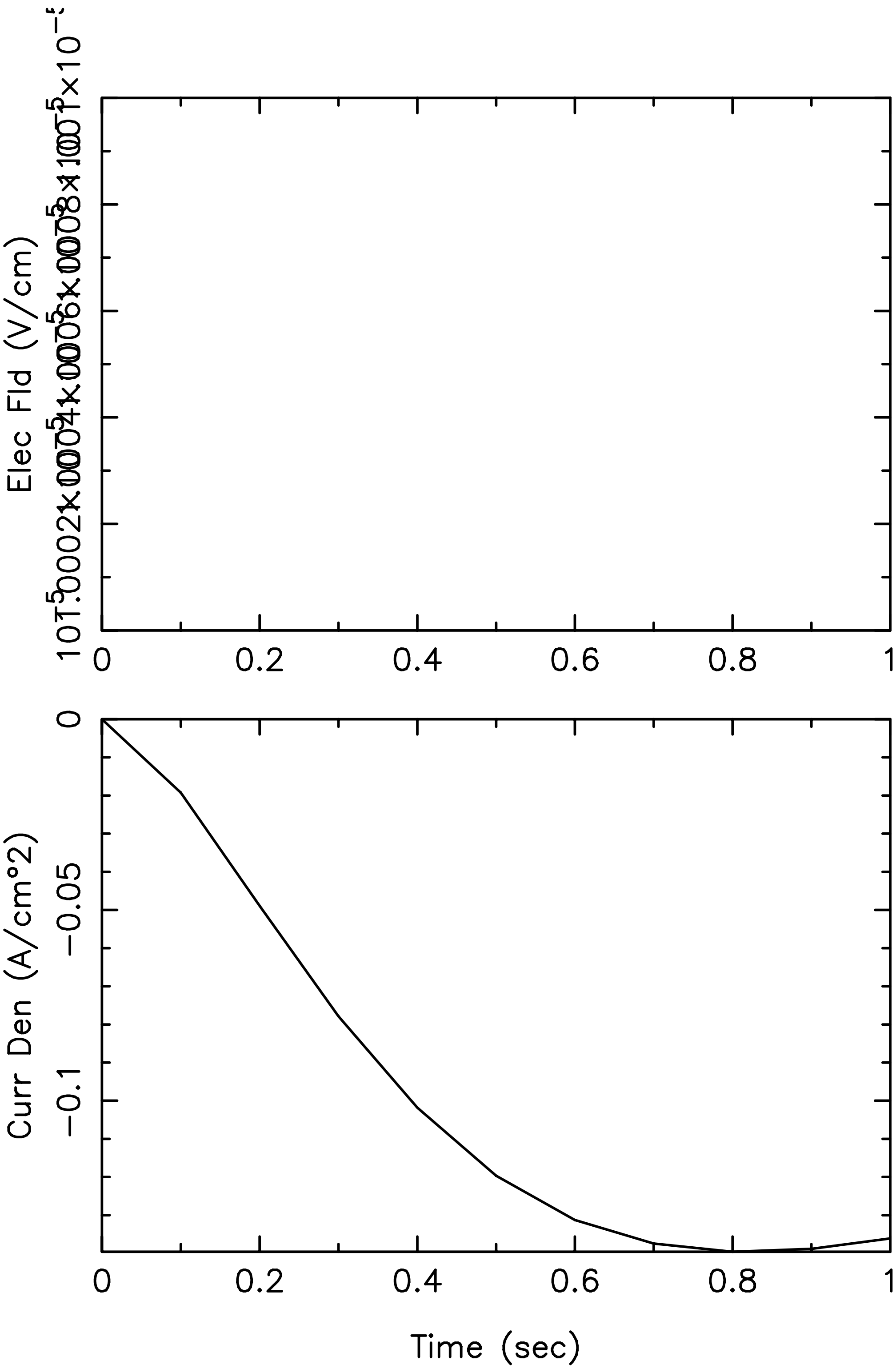
time step n= 10   time= 1.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf# 8

Contour values:

3.750320E+15	2.545282E+15	1.361636E+15	5.893041E+14
2.124633E+14	6.567992E+13	1.787185E+13	4.378223E+12
9.839802E+11	2.060198E+11	4.068758E+10	7.655796E+09
1.383541E+09	2.417072E+08	4.103659E+07	6.799872E+06
1.103584E+06	1.759320E+05	2.761620E+04	4.276953E+03

LOCAL RADIAL QUANTITIES

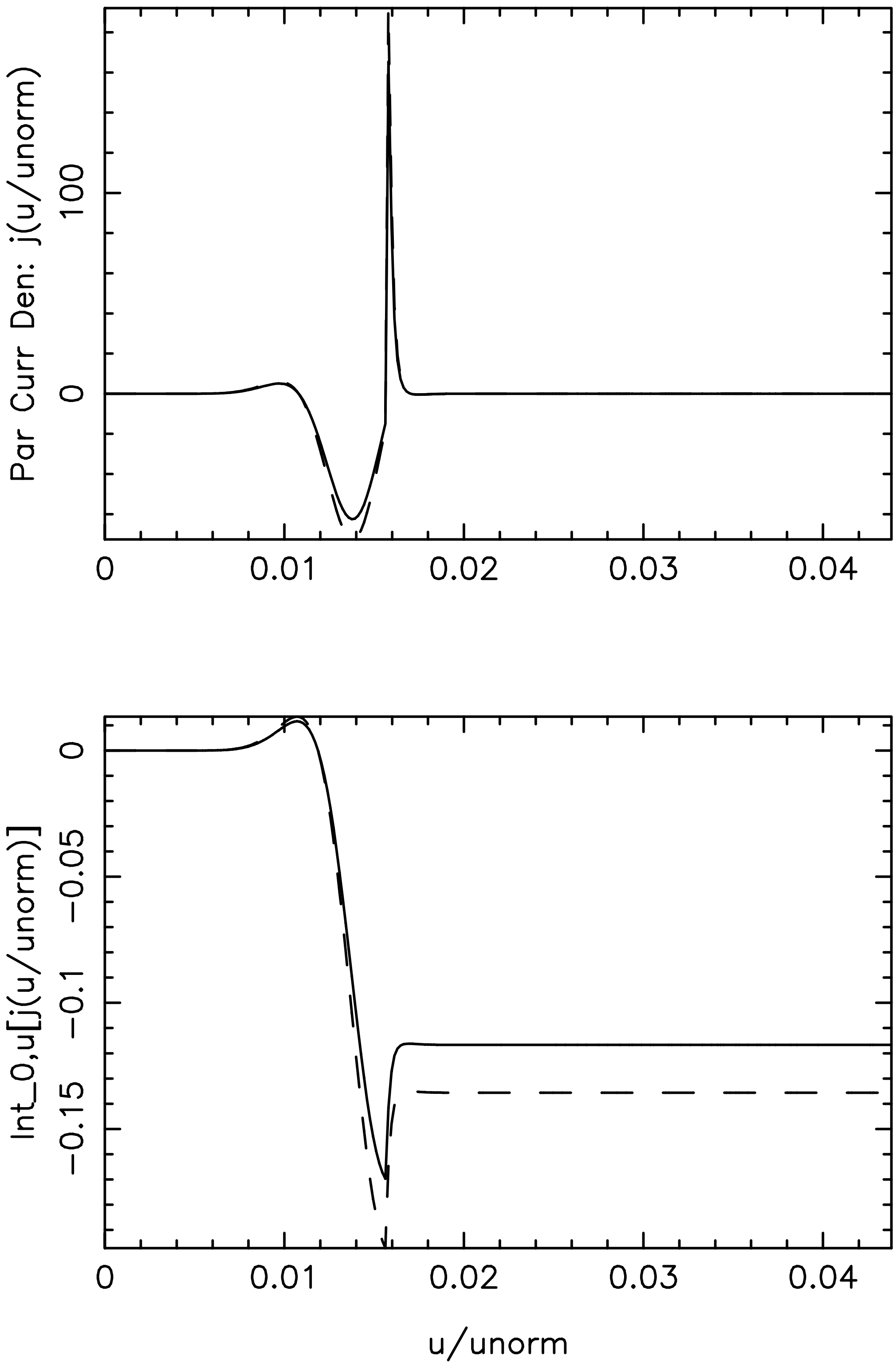
time step n= 10, time= 1.0000E+00 secs
flux surf= 16 total flux surfs= 38
r/a= 4.00E−01 radial position (r) = 1.02E+02 cms
rya= 4.000E−01 R=rpcon= 7.387E+02 cm
enorm (kev) = 1000.000
vnorm/c = 2.78273
vthe (sqrt(te/me))/c = 0.21578
vthe/vnorm = 0.07754
k= 1 vth(k)/vnorm = 0.00087
k= 2 vth(k)/vnorm = 0.07754
k= 3 vth(k)/vnorm = 0.00087
k= 4 vth(k)/vnorm = 0.00123
k= 5 vth(k)/vnorm = 0.00101
k= 6 vth(k)/vnorm = 0.00058
k= 7 vth(k)/vnorm = 0.00028
k= 8 vth(k)/vnorm = 0.07754



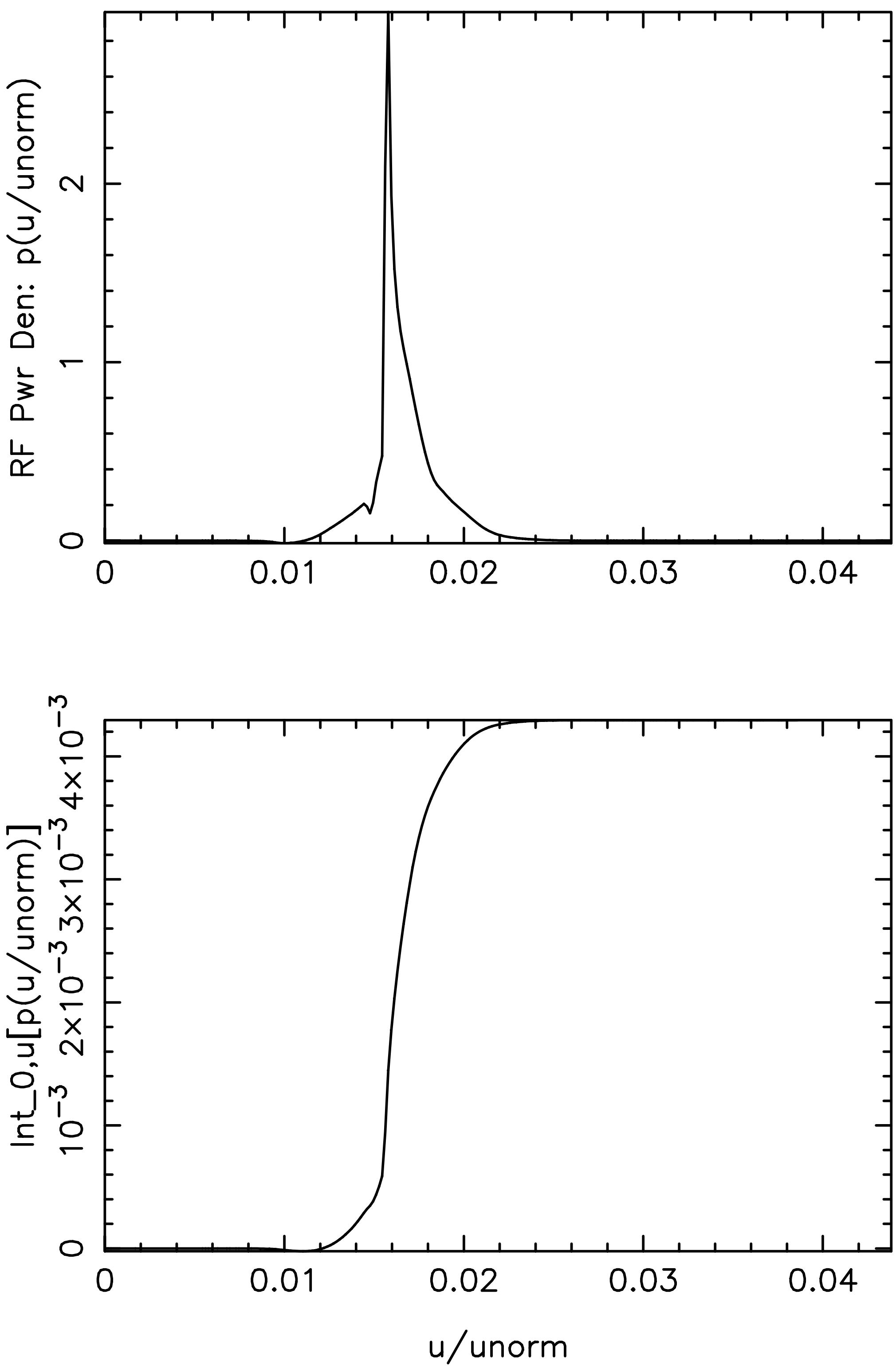
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = −1.3609E−01 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = −7.8877E−03 A/W

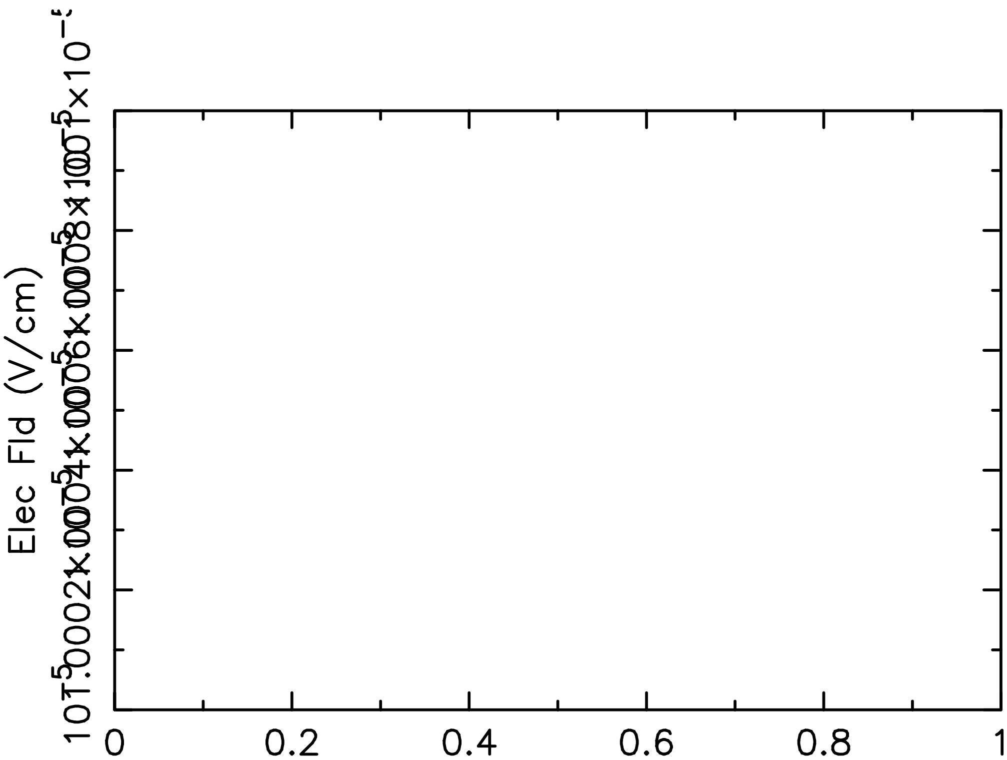
Solid: midplane; Dashed: <..>_FSA

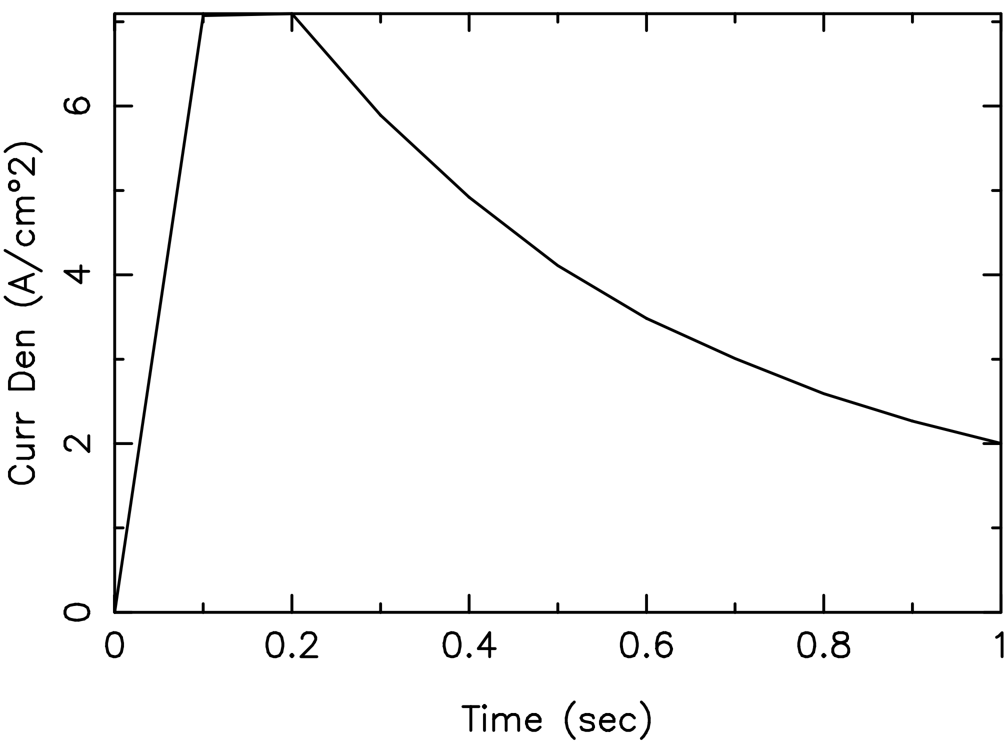


Species: 1 Current(FSA)=−.1356E+00 Amps/cm^2



Species: 1 Power =0.4294E−02 Watts/cc

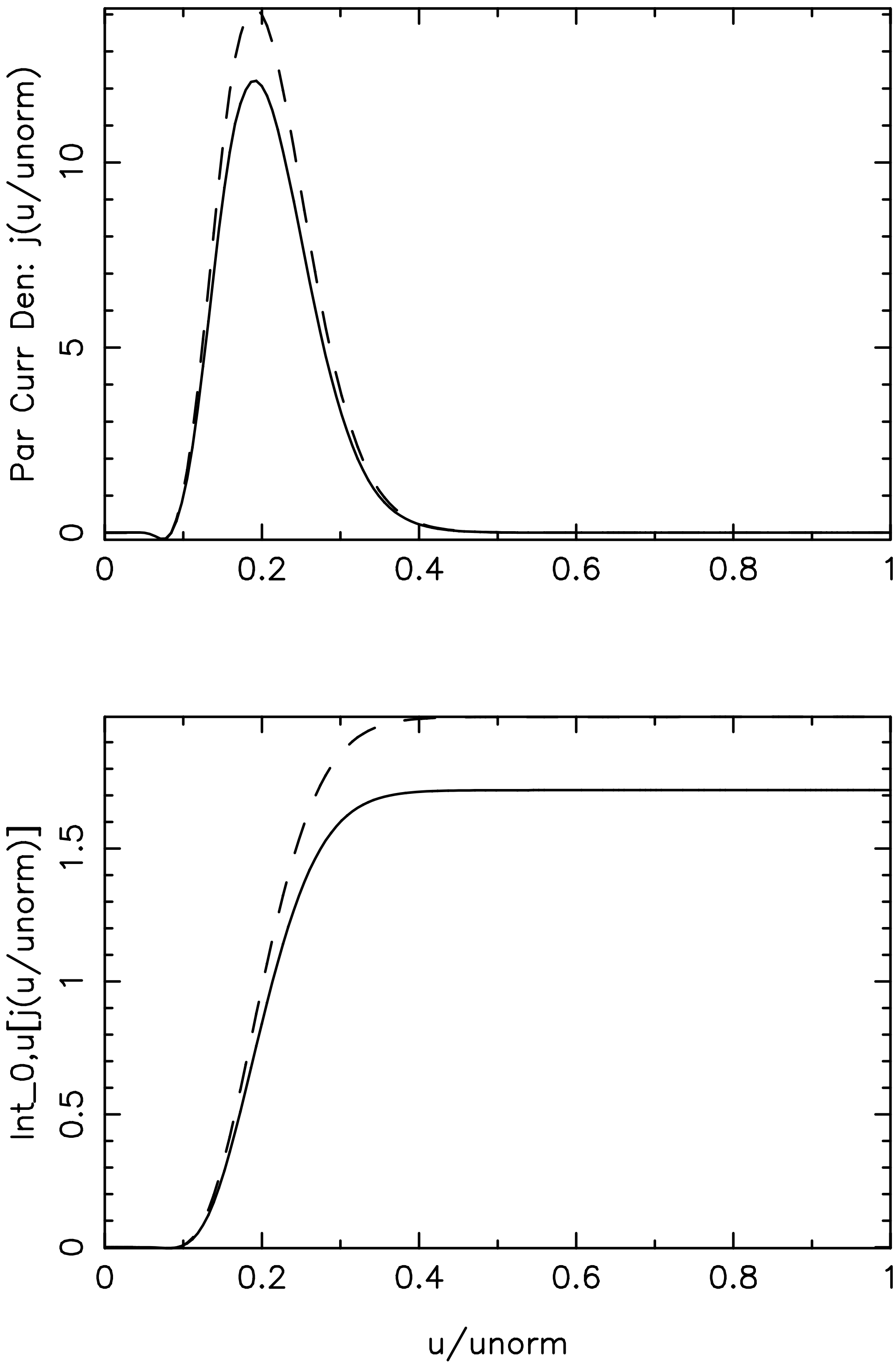




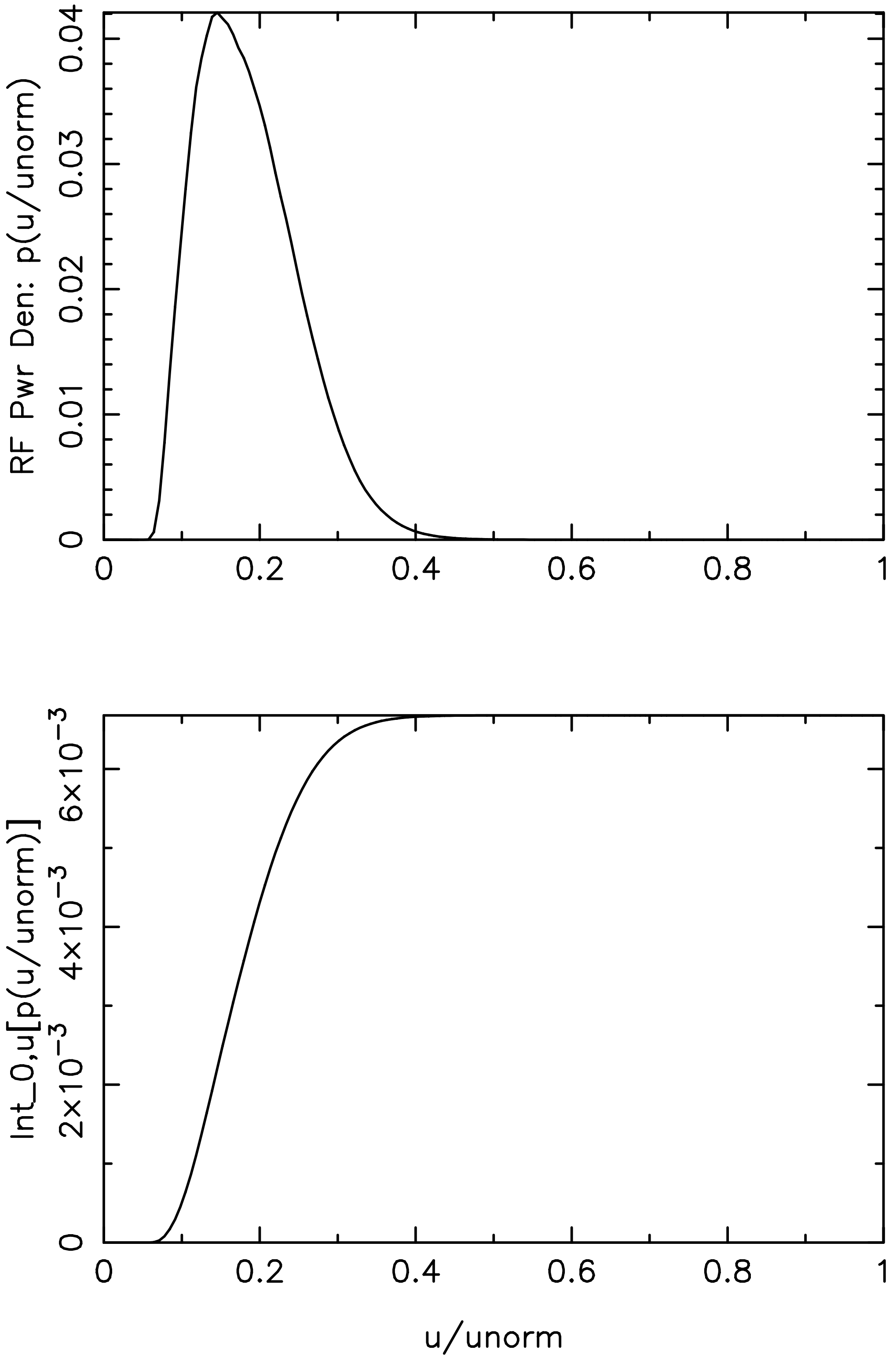
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 2.0019E+00 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 7.4581E−02 A/W
Electron current (units ne*q*vth(kelec,lr_)) = 3.2158E−05
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 5.0904E−06
efficiency (j/p) (Fisch 1978 units) = 6.3174E+00
efficiency (j/p) (e/(m*c*nu_c units) = 2.9414E−01
vth(kelec,lr_) = sqrt(T/m) = 6.4689E+09 cm/sec
nu0 = 5.7267E+03 Hz

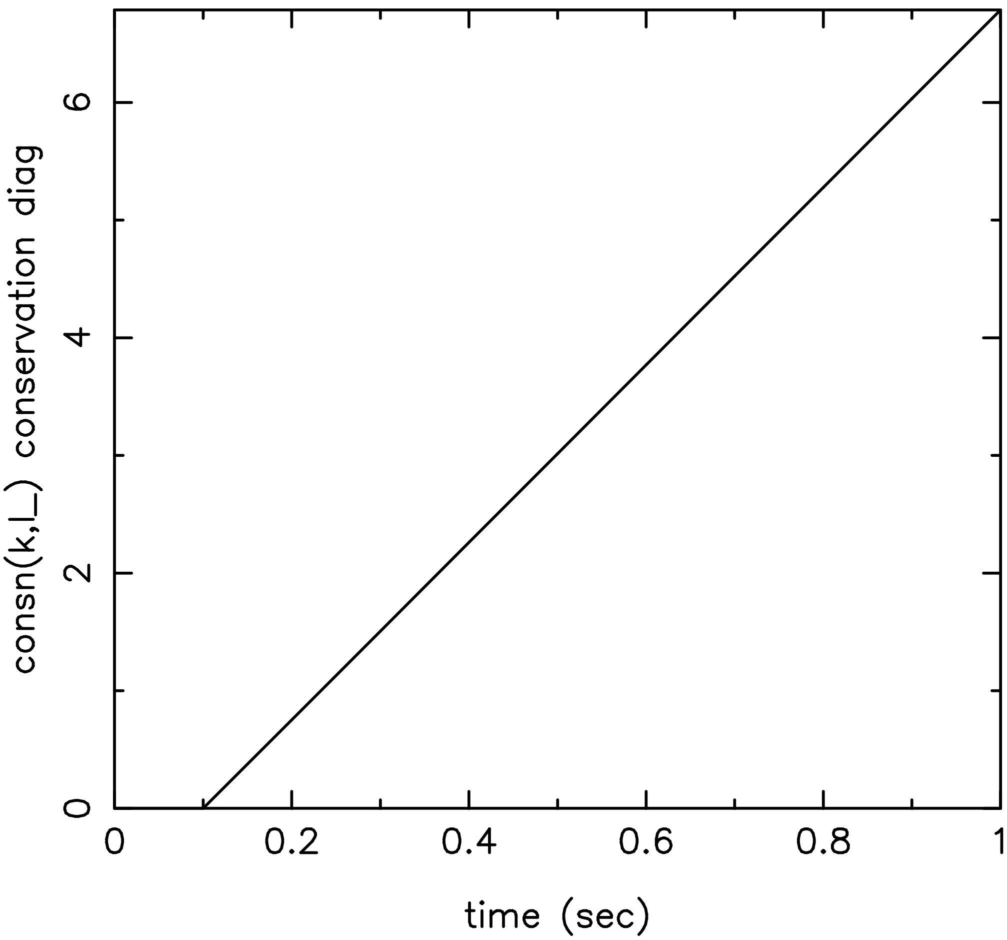
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.1995E+01 Amps/cm^2

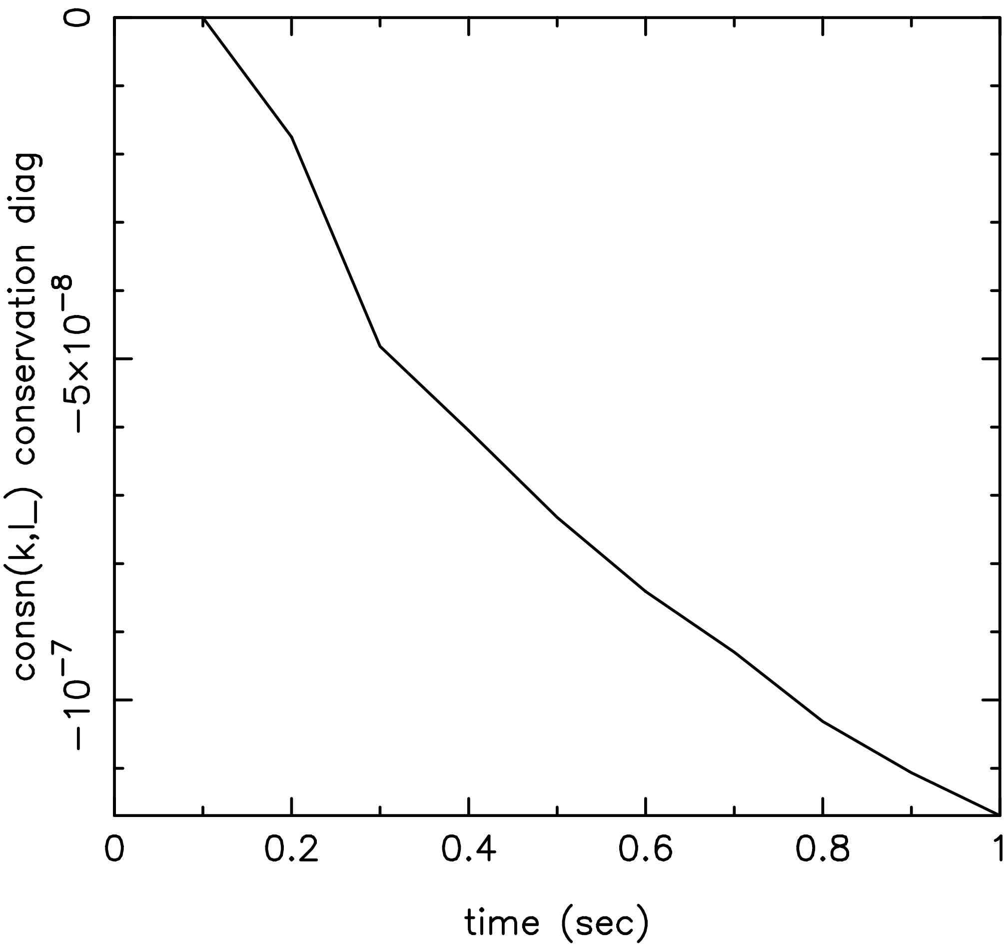


Species: 2 Power =0.6680E-02 Watts/cc



consn(k,l_)= 6.7864E+00
Perfect conservation should yield machine accuracy,
or about 1.e−14:

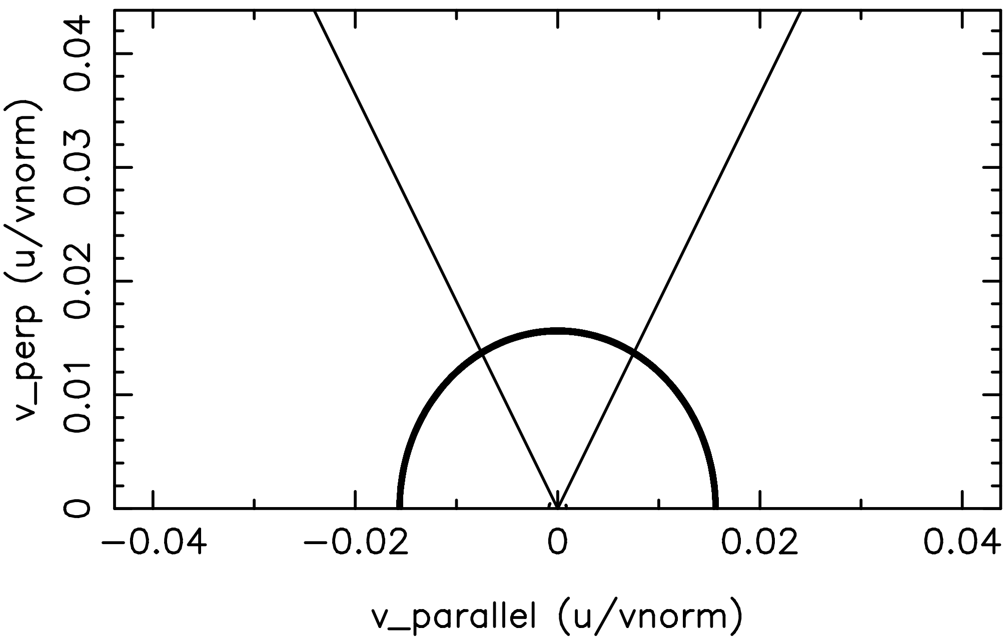
time step (n) is 10 time= 1.0000E+00 secs Species k= 1
r/a= 4.0000E−01 radial position (r) = 7.3872E+02 cm



consn(k,l_)= −1.1693E−07
Perfect conservation should yield machine accuracy,
or about 1.e−14:

time step (n) is 10   time= 1.0000E+00 secs   Species k= 2
r/a= 4.0000E−01   radial position (r) = 7.3872E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 10   time= 1.00E+00 secs
r/a= 4.00E−01   radial position (r) = 1.02E+02 cm
rya= 4.000E−01   R=rpcon= 7.387E+02 cm, Surf# 16

NBI source rate= 0.0000E+00 ptcls/cc/sec

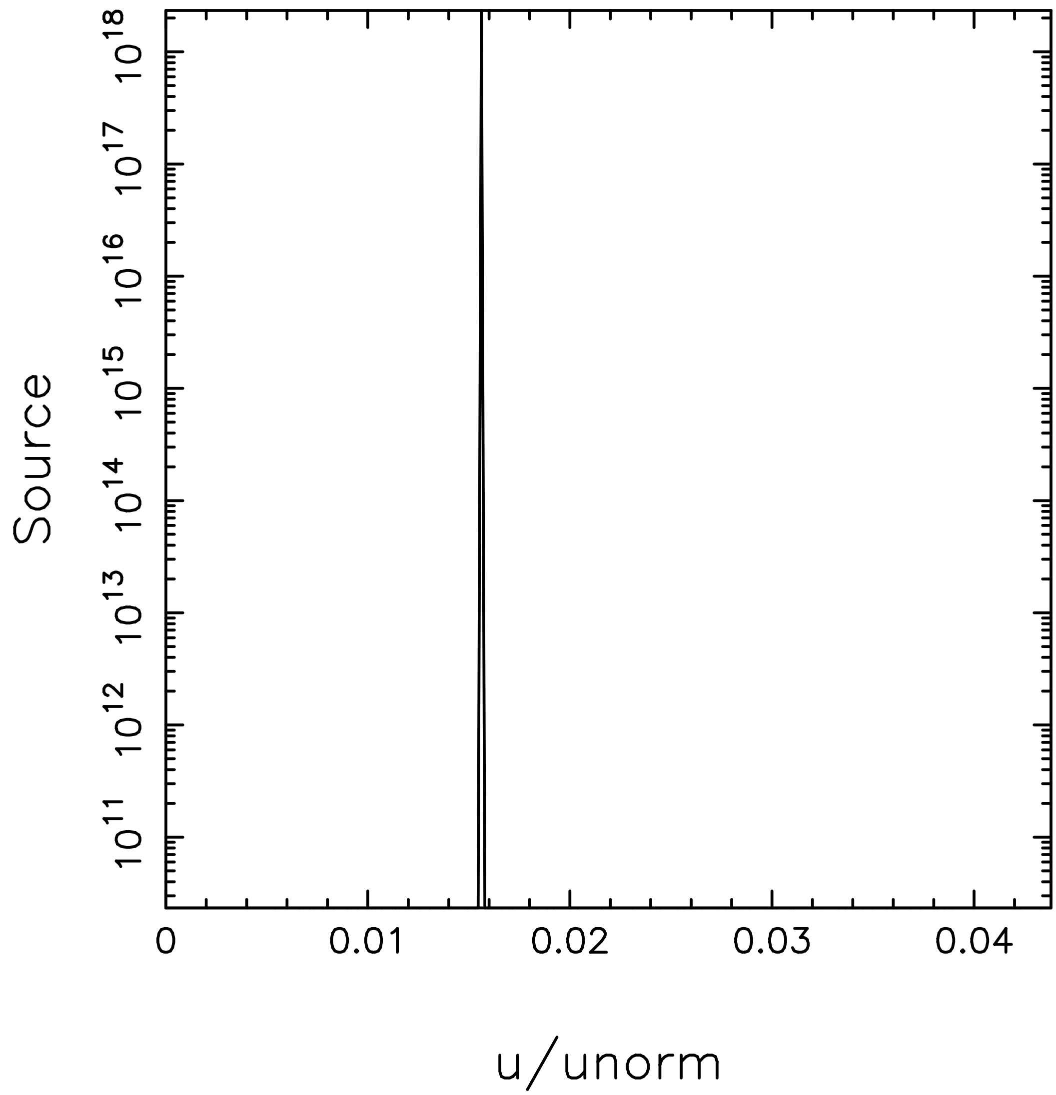
FUS source rate= 3.0937E+11 ptcls/cc/sec

Total source power [entr(..5..)]= 1.7447E−01 W/cc

Contour values:

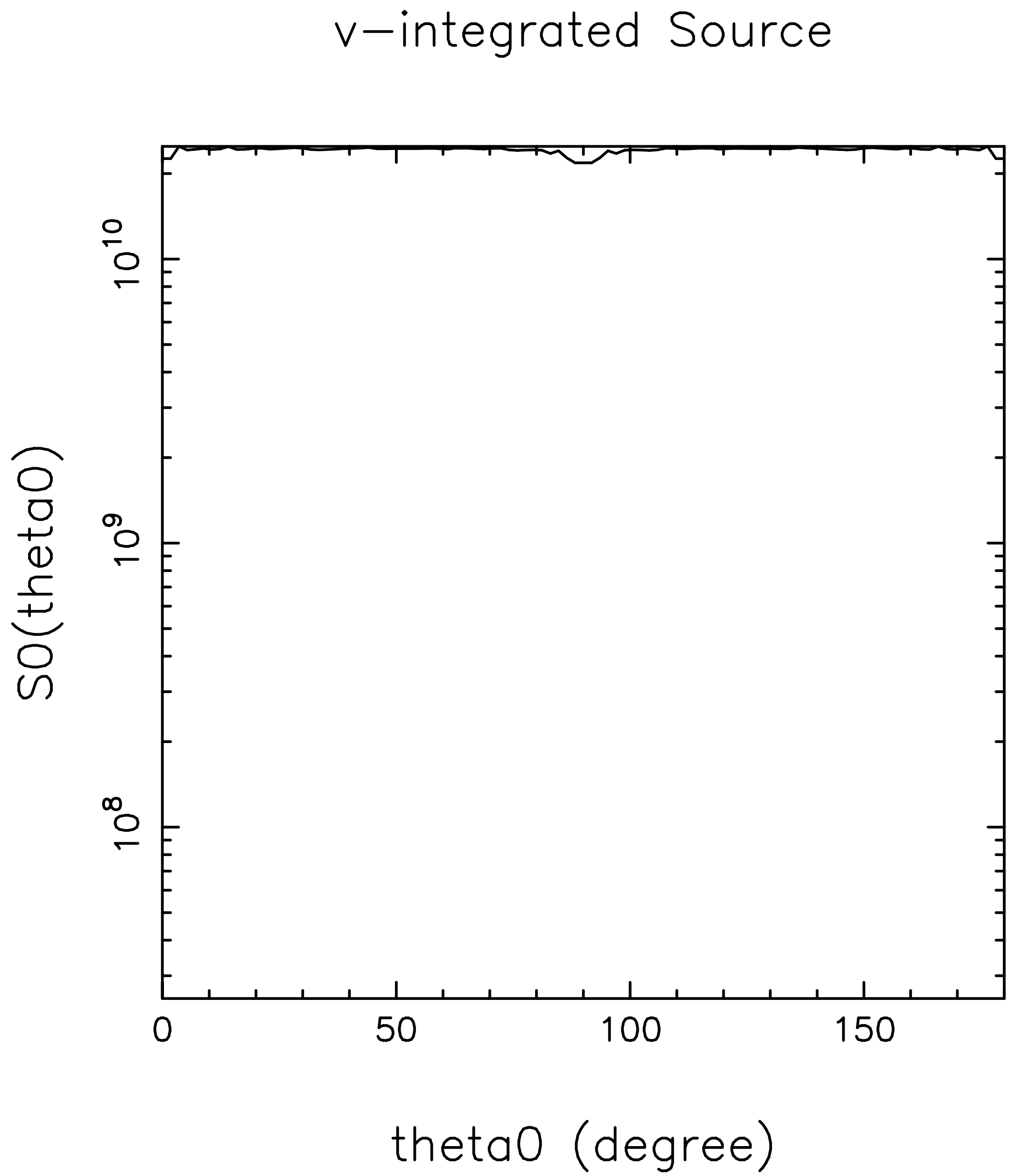
1.2004E+06	4.7791E+06	1.9026E+07	7.5743E+07
3.0154E+08	1.2004E+09	4.7791E+09	1.9026E+10
7.5743E+10	3.0154E+11	1.2004E+12	4.7791E+12
1.9026E+13	7.5743E+13	3.0154E+14	1.2004E+15
4.7791E+15	1.9026E+16	7.5743E+16	3.0154E+17

Pitch Angle Avg Source vs. u



Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm=   8.3424E+10 cm/s

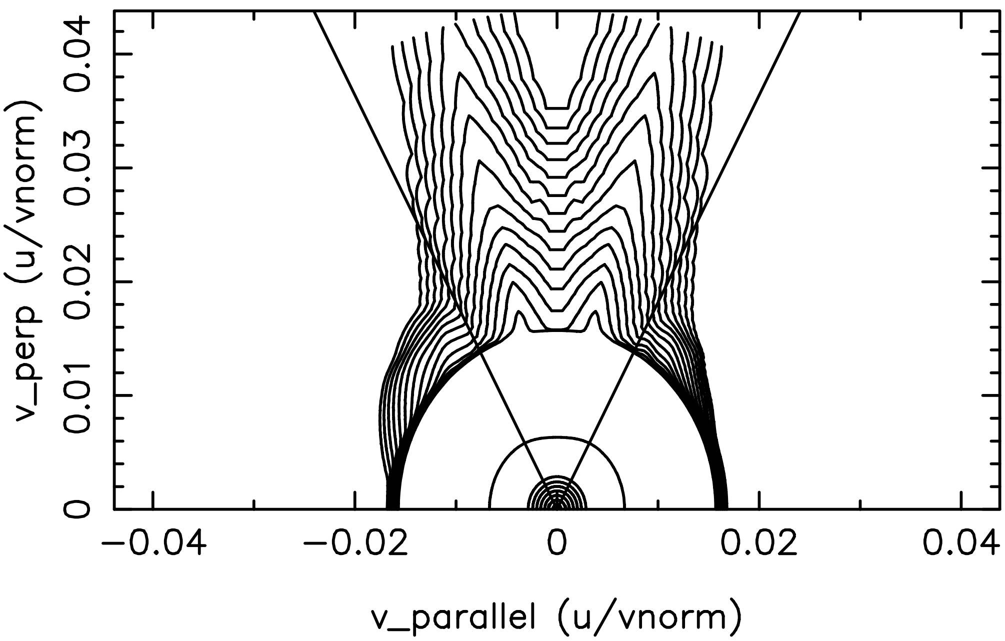
time step (n) is 10   time= 1.0000E+00 secs
r/a= 4.0000E-01   radial position (r) = 7.3872E+02 cm



Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 10 time= 1.0000E+00 secs
r/a= 4.0000E−01 radial position (r) = 7.3872E+02 cm

Species 1 Distribution Function Contour Plot

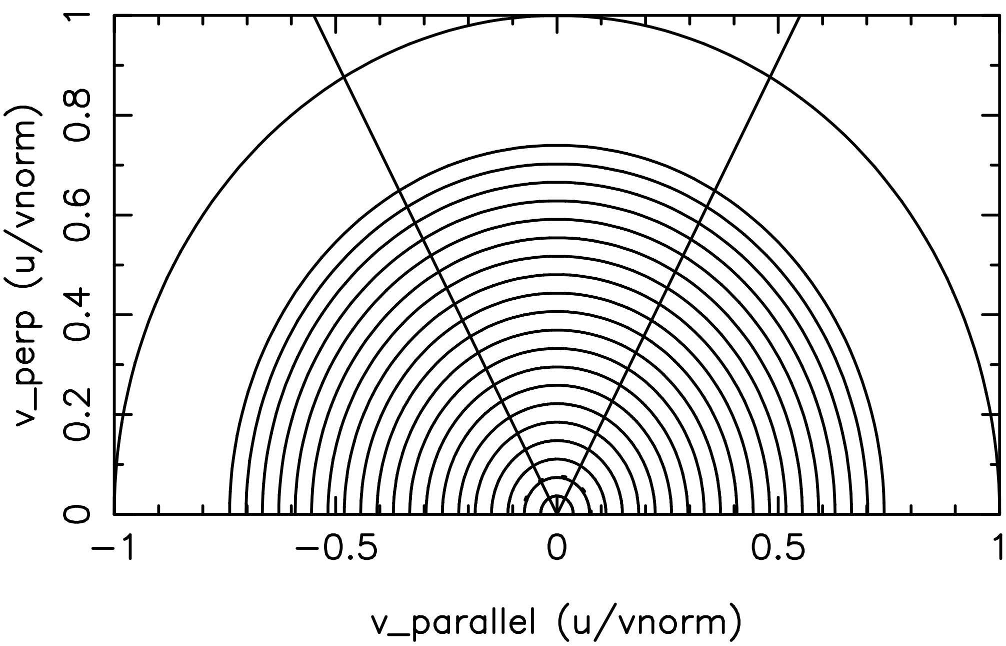


time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contour values:

9.288223E+17	6.700696E+17	3.926568E+17	1.894144E+17
7.646521E+16	2.630152E+16	7.850083E+15	2.068843E+15
4.892531E+14	1.053327E+14	2.090890E+13	3.869200E+12
6.738244E+11	1.113334E+11	1.757343E+10	2.665595E+09
3.904947E+08	5.548514E+07	7.674791E+06	1.036683E+06

Species 2 Distribution Function Contour Plot



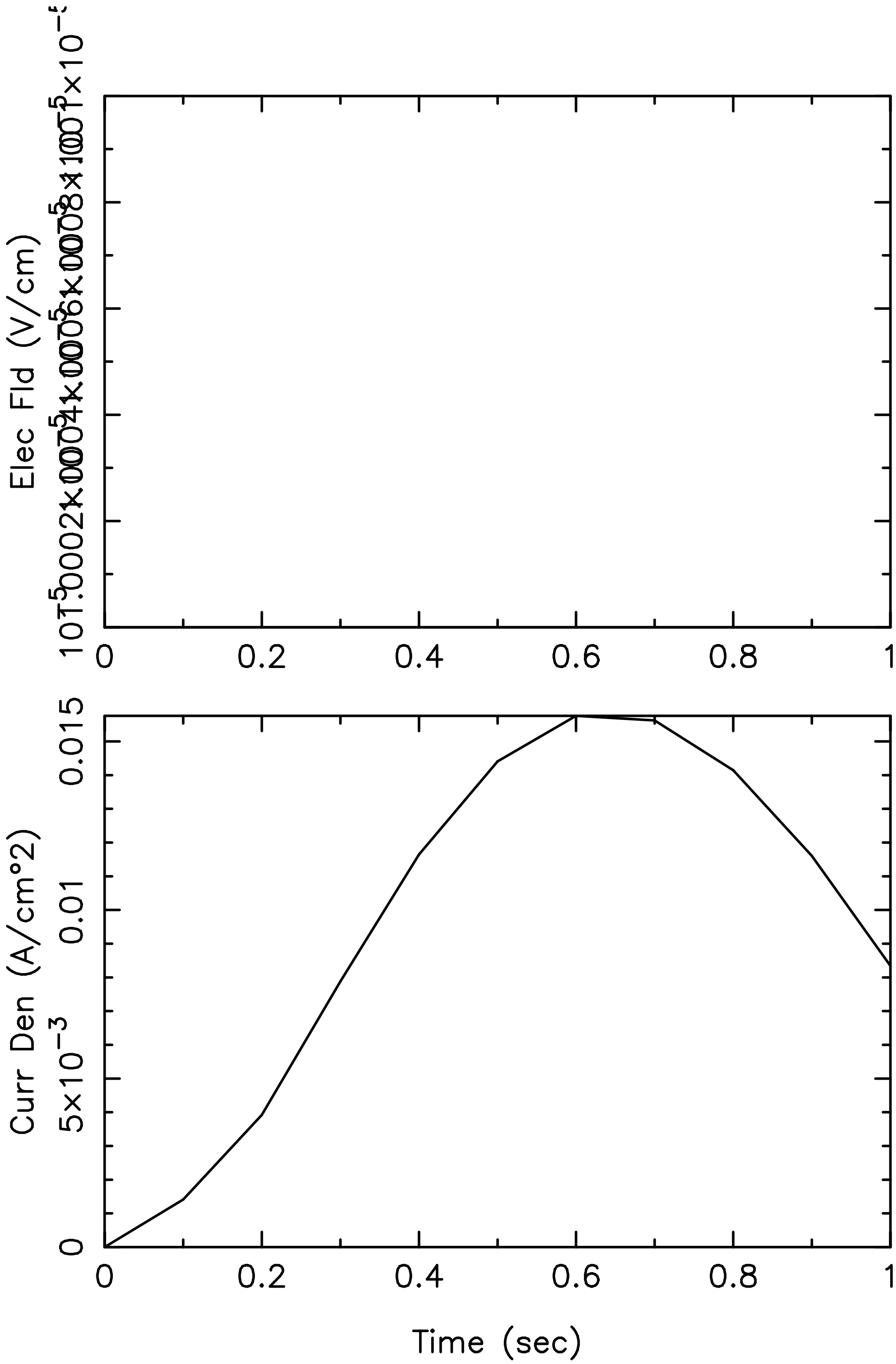
time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contour values:

6.670692E+15	4.766388E+15	2.752563E+15	1.304282E+15
5.164878E+14	1.743347E+14	5.115411E+13	1.329209E+13
3.110381E+12	6.652339E+11	1.317192E+11	2.441217E+10
4.274609E+09	7.127616E+08	1.139309E+08	1.755614E+07
2.620420E+06	3.803783E+05	5.388272E+04	7.470318E+03

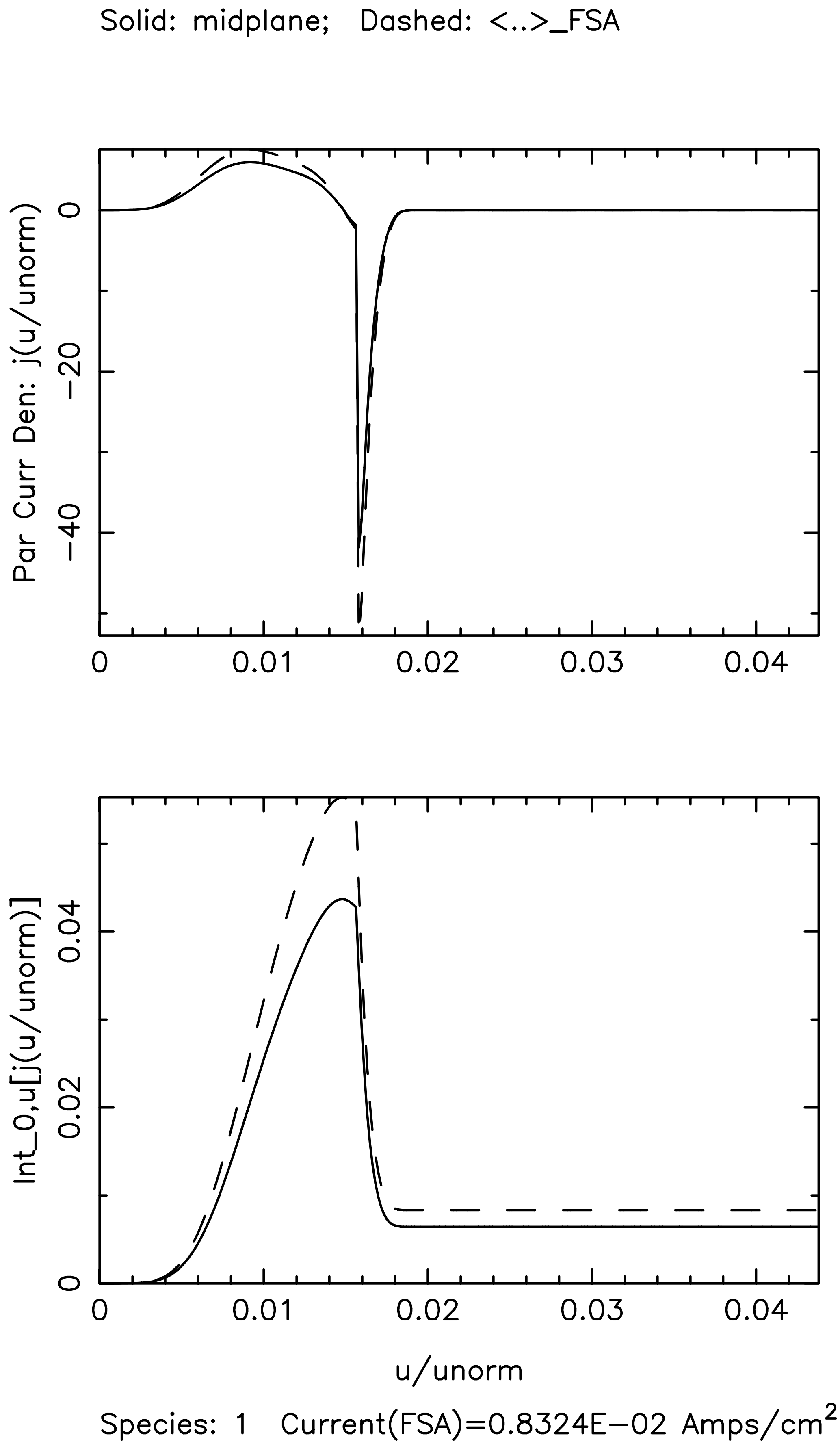
LOCAL RADIAL QUANTITIES

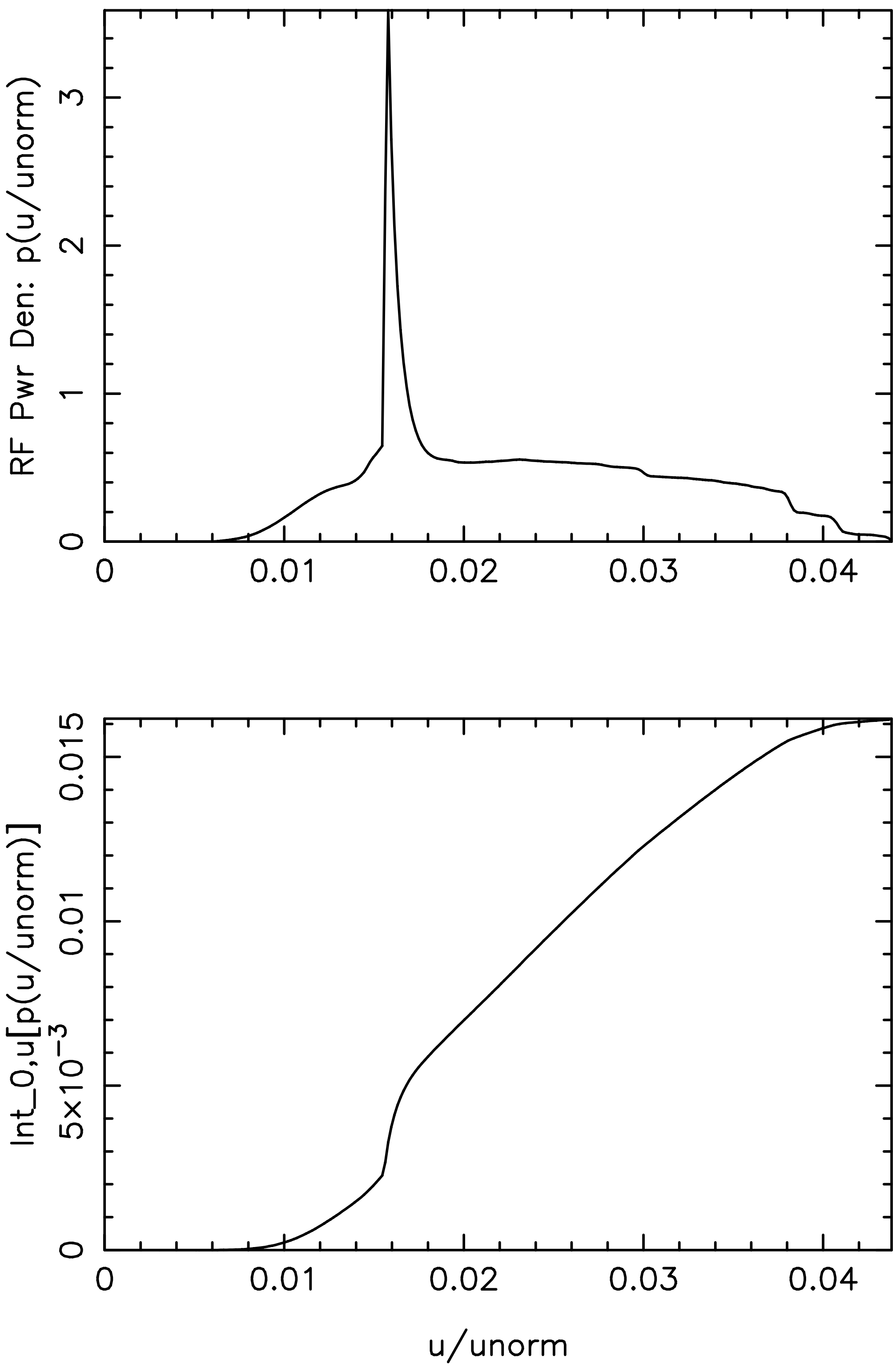
time step n= 10,   time= 1.0000E+00 secs
flux surf= 24   total flux surfs= 38
r/a= 6.00E-01   radial position (r) = 1.53E+02 cms
rya= 6.000E-01   R=rpcon= 7.717E+02 cm
enorm (kev) =   1000.000
vnorm/c =   2.78273
vthe (sqrt(te/me))/c =   0.15491
vthe/vnorm =   0.05567
k= 1 vth(k)/vnorm =   0.00062
k= 2 vth(k)/vnorm =   0.05567
k= 3 vth(k)/vnorm =   0.00062
k= 4 vth(k)/vnorm =   0.00087
k= 5 vth(k)/vnorm =   0.00071
k= 6 vth(k)/vnorm =   0.00041
k= 7 vth(k)/vnorm =   0.00020
k= 8 vth(k)/vnorm =   0.05567



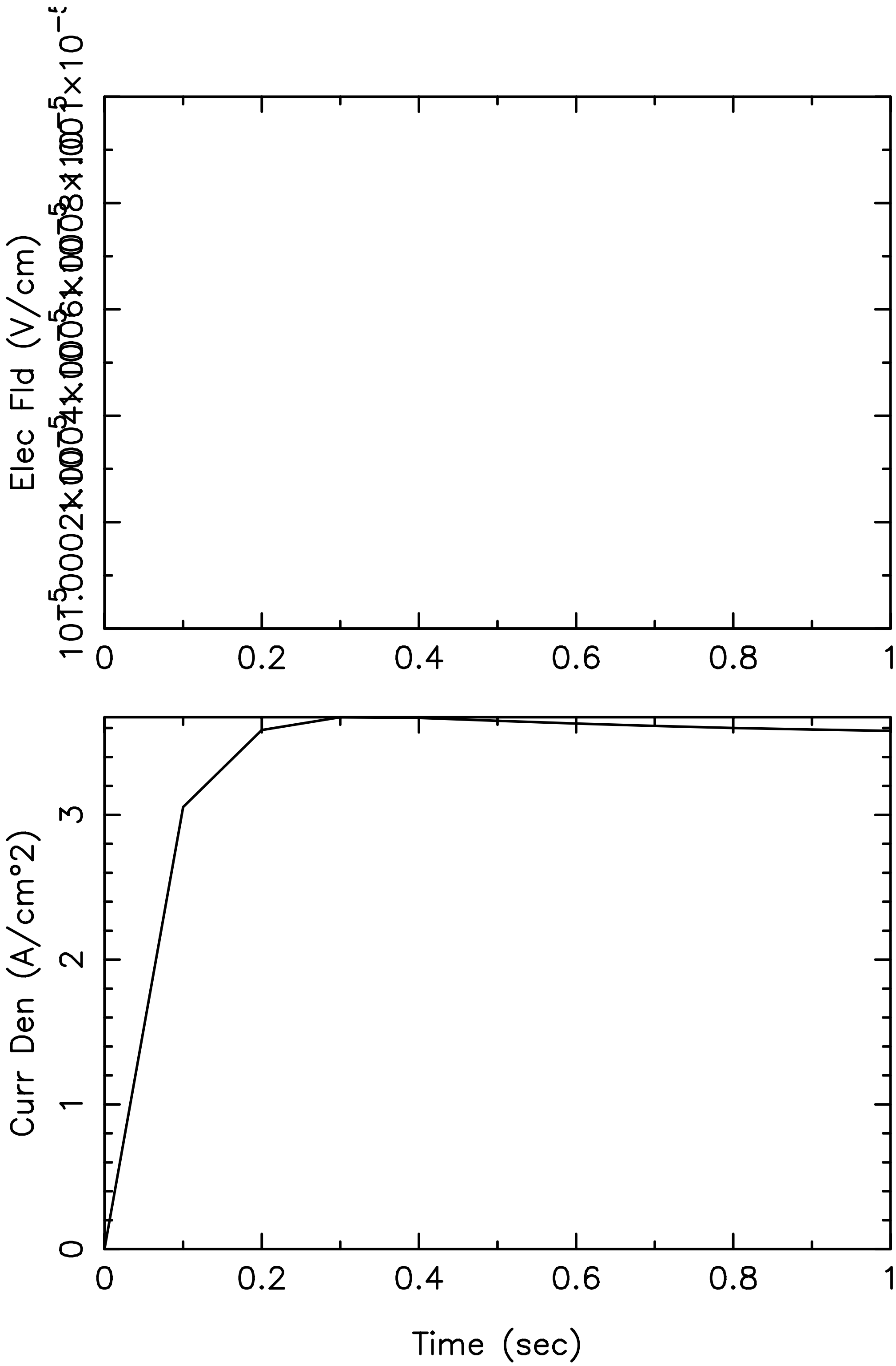
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = 8.3432E−03 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 1.3369E−04 A/W


Solid: midplane; Dashed: <..>_FSA
Par Curr Den: j(u/unorm)
0
−20
−40
0
0.01
0.02
0.03
0.04
Int_0,u[j(u/unorm)]
0
0.02
0.04
0
0.01
0.02
0.03
0.04
u/unorm
Species: 1 Current(FSA)=0.8324E−02 Amps/cm2



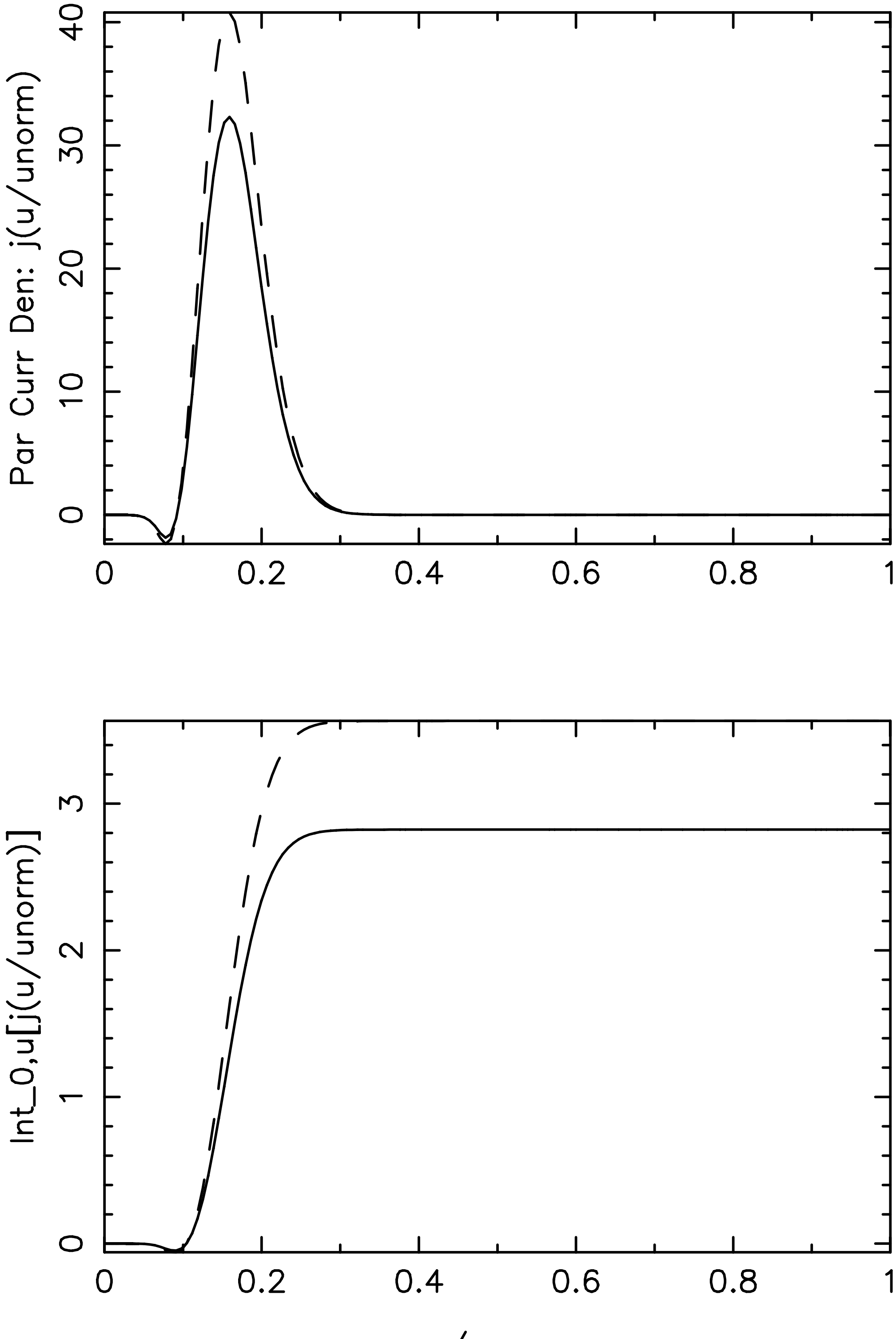
Species: 1 Power =0.1616E-01 Watts/cc



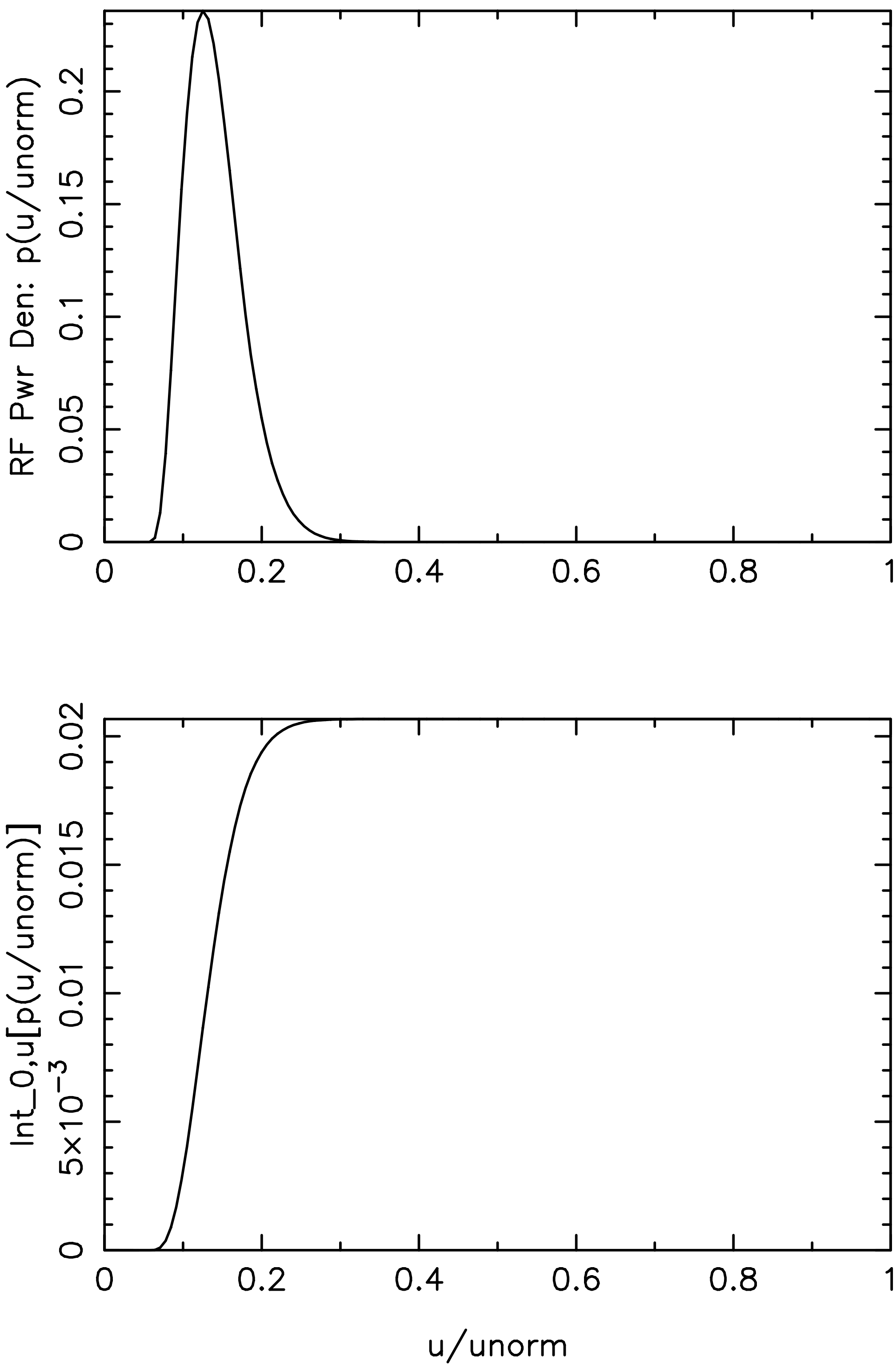
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 3.5797E+00 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 4.4764E−02 A/W
Electron current (units ne*q*vth(kelec,lr_)) =   8.0348E−05
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 1.1379E−05
efficiency (j/p) (Fisch 1978 units) =   7.0610E+00
efficiency (j/p) (e/(m*c*nu_c units) =   1.6944E−01
vth(kelec,lr_) = sqrt(T/m) =   4.6440E+09 cm/sec
nu0 =   1.5430E+04 Hz

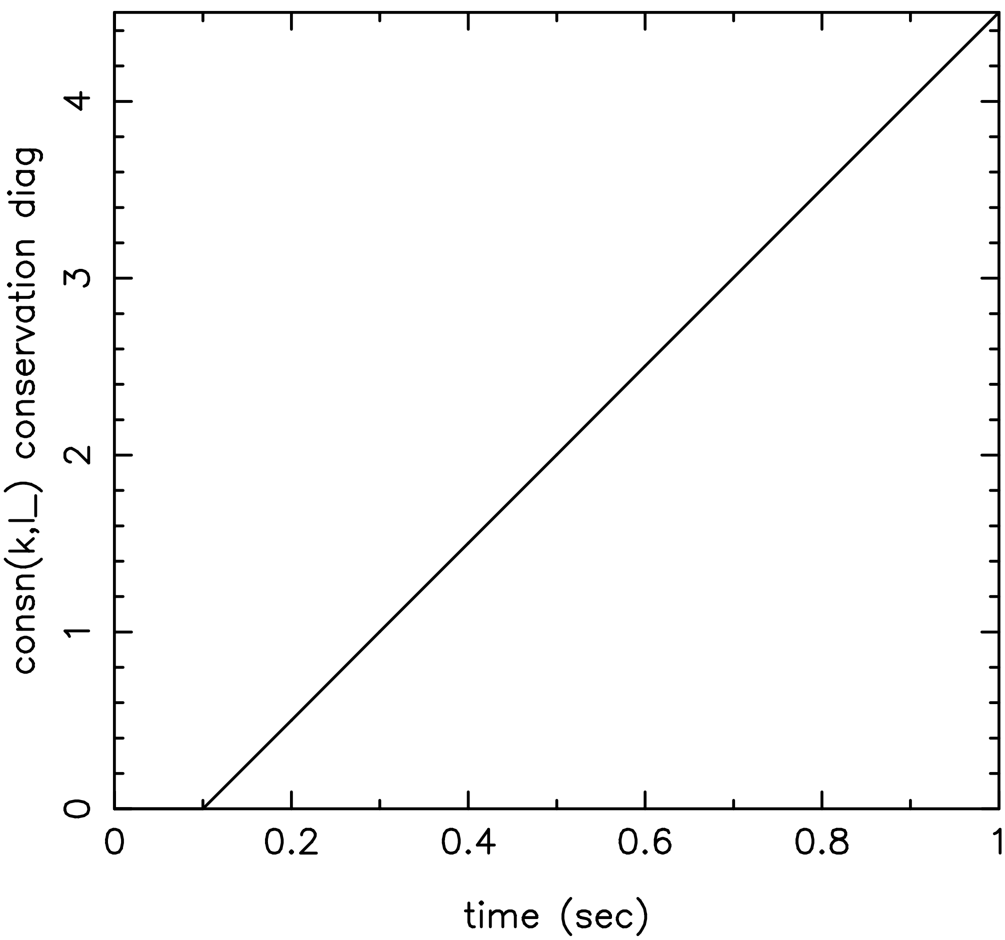
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.3564E+01 Amps/cm^2

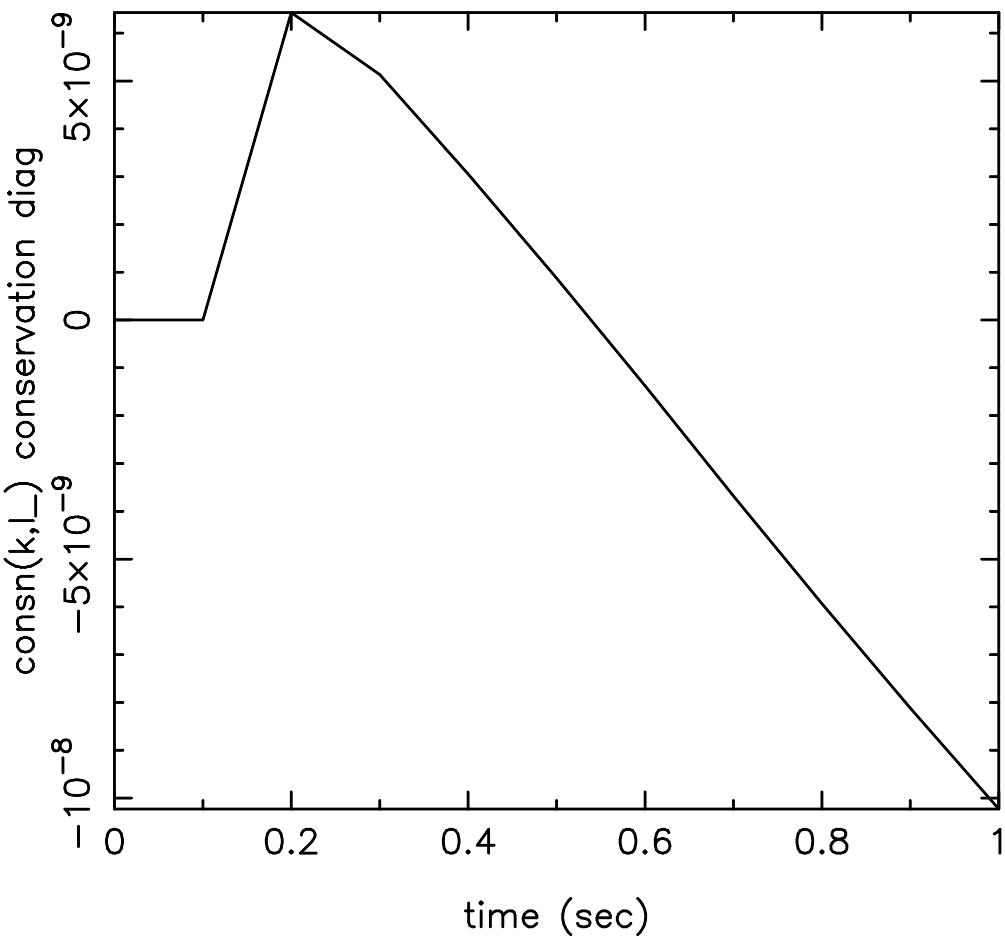


Species: 2 Power =0.2067E−01 Watts/cc



consn(k,l_)= 4.5035E+00
Perfect conservation should yield machine accuracy,
or about 1.e−14:

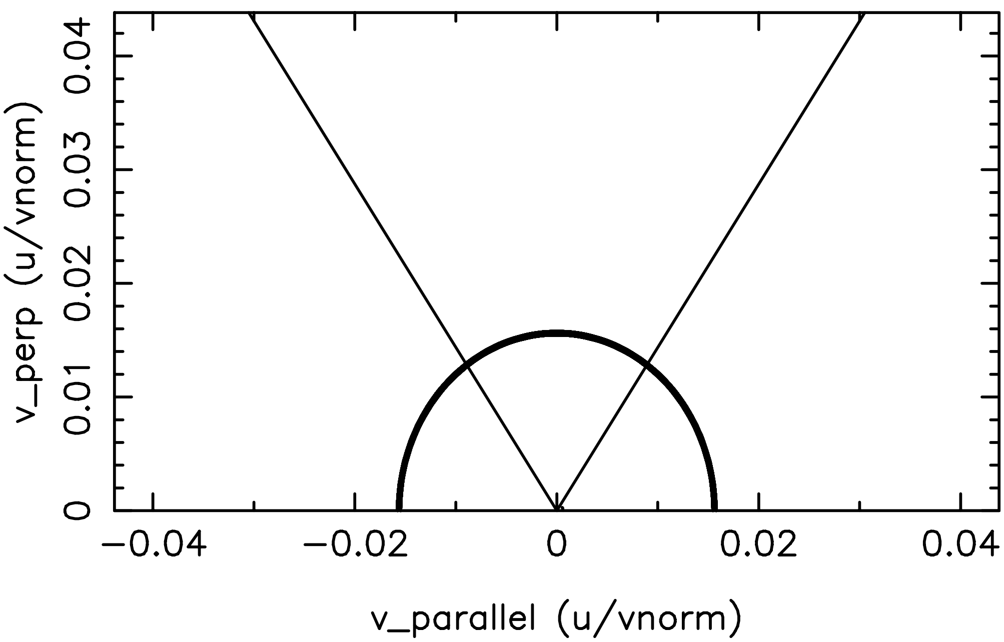
time step (n) is 10   time= 1.0000E+00 secs   Species k= 1
r/a= 6.0000E−01   radial position (r) = 7.7171E+02 cm



consn(k,l_)= −1.0227E−08
Perfect conservation should yield machine accuracy,
or about 1.e−14:

time step (n) is 10 time= 1.0000E+00 secs Species k= 2
r/a= 6.0000E−01 radial position (r) = 7.7171E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

NBI source rate= 0.0000E+00 ptcls/cc/sec

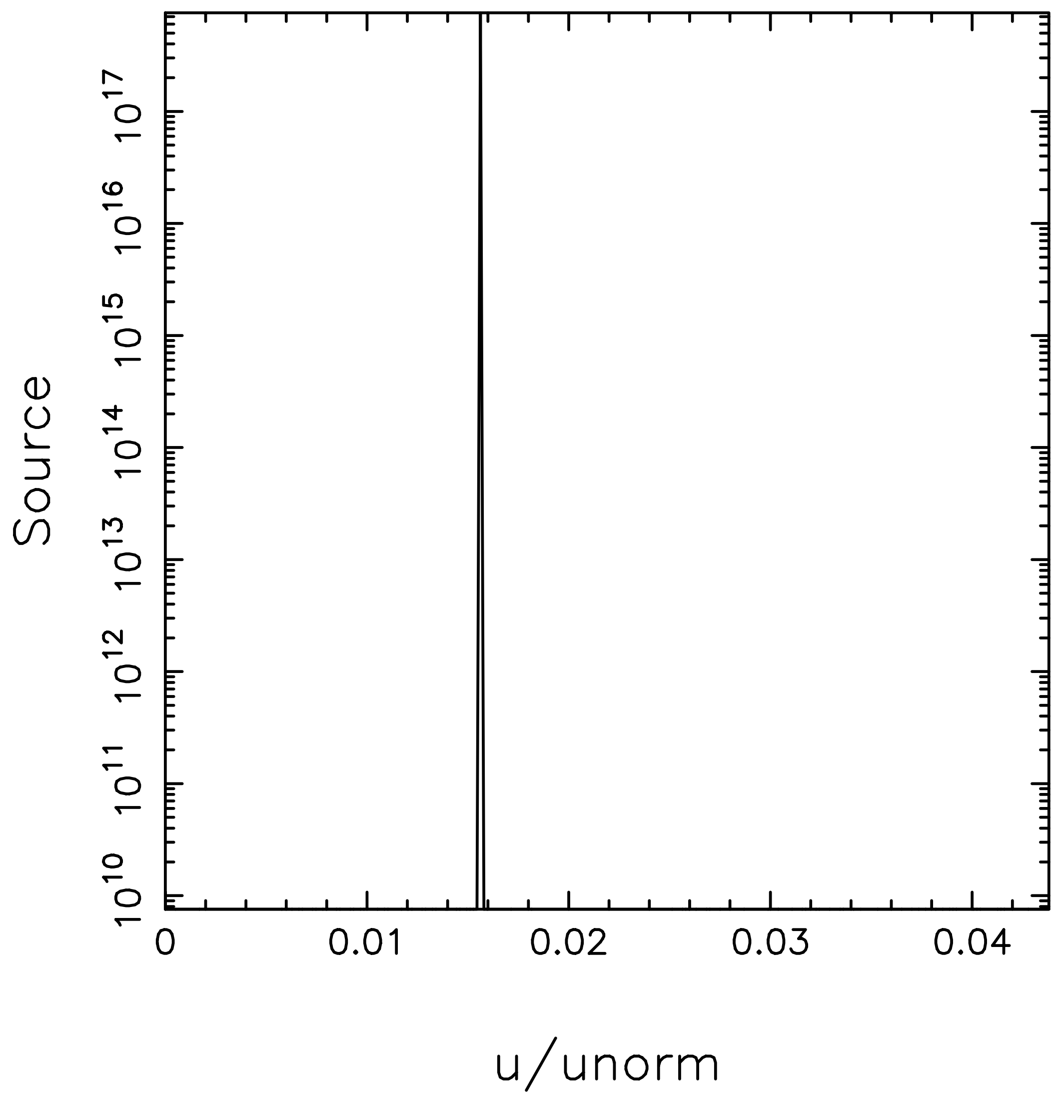
FUS source rate= 1.0095E+11 ptcls/cc/sec

Total source power [entr(..5..)]= 5.6934E−02 W/cc

Contour values:

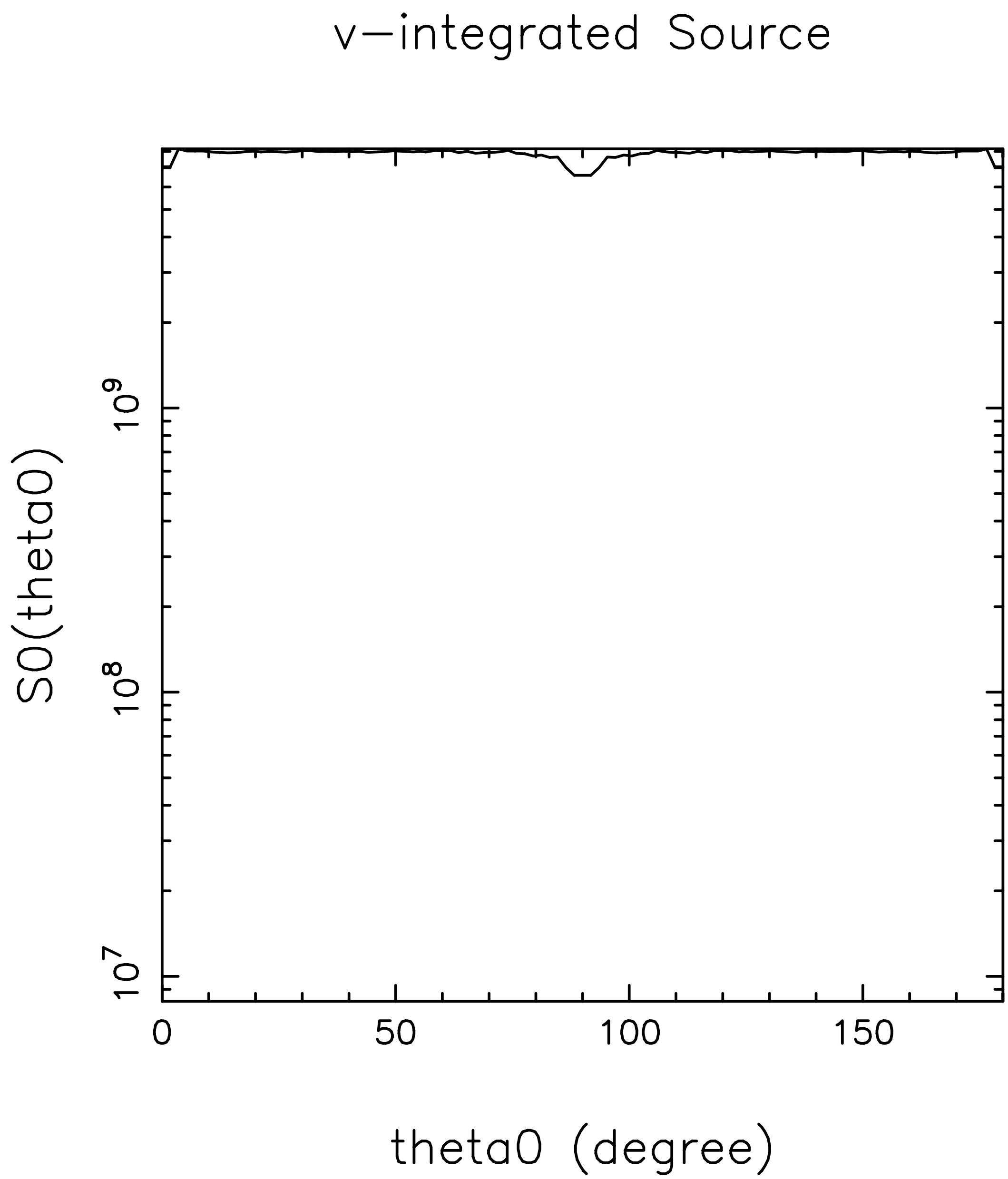
3.9310E+05	1.5650E+06	6.2302E+06	2.4803E+07
9.8743E+07	3.9310E+08	1.5650E+09	6.2302E+09
2.4803E+10	9.8743E+10	3.9310E+11	1.5650E+12
6.2302E+12	2.4803E+13	9.8743E+13	3.9310E+14
1.5650E+15	6.2302E+15	2.4803E+16	9.8743E+16

Pitch Angle Avg Source vs. u



Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm= 8.3424E+10 cm/s

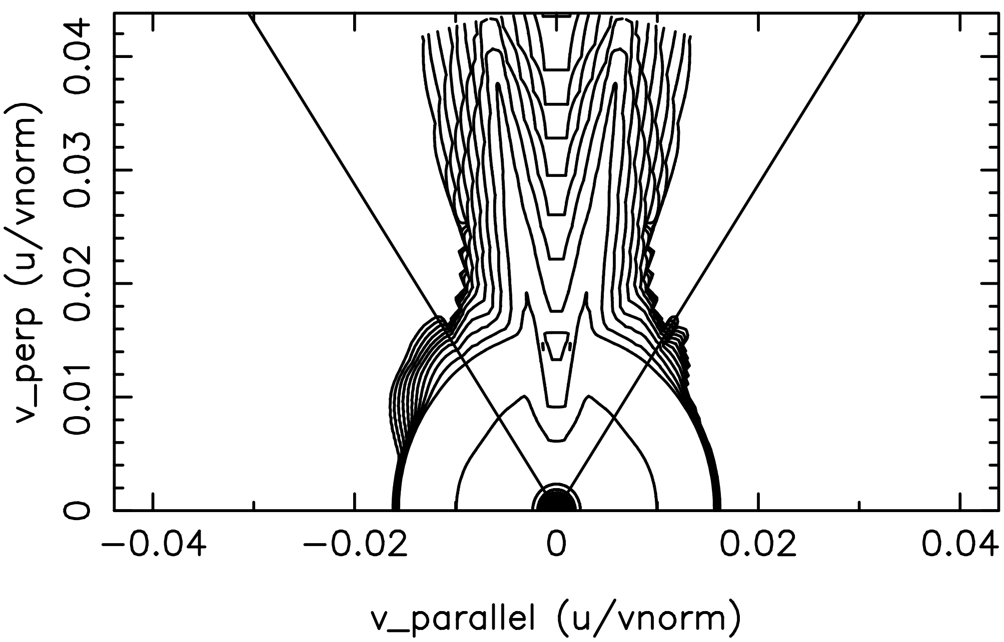
time step (n) is 10 time= 1.0000E+00 secs
r/a= 6.0000E-01 radial position (r) = 7.7171E+02 cm



Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 10 time= 1.0000E+00 secs
r/a= 6.0000E-01 radial position (r) = 7.7171E+02 cm

Species 1 Distribution Function Contour Plot

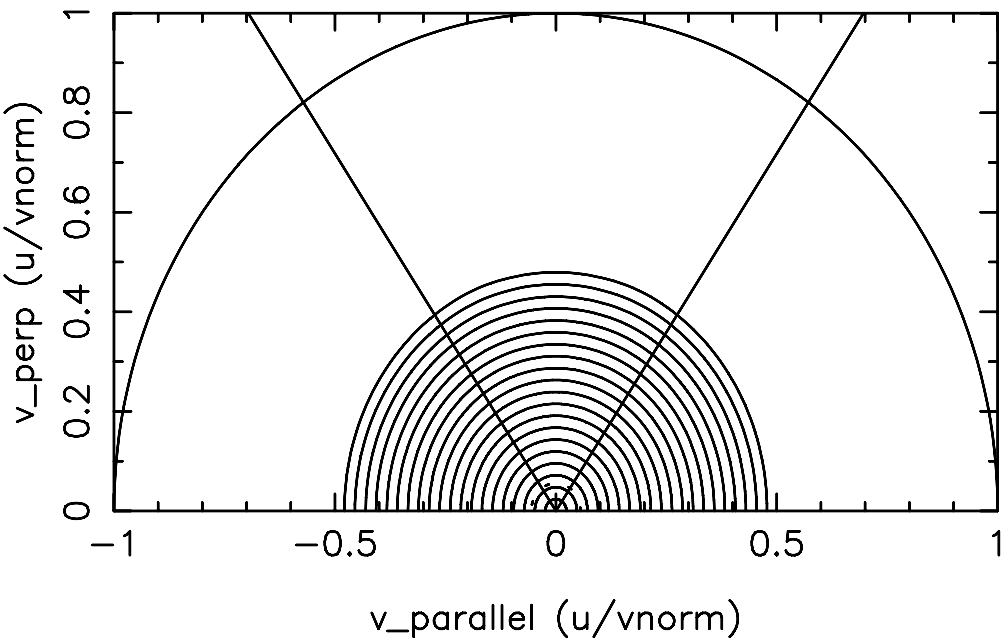


time step n= 10 time= 1.00E+00 secs
r/a= 6.00E-01 radial position (r) = 1.53E+02 cm
rya= 6.000E-01 R=rpcon= 7.717E+02 cm, Surf# 24

Contour values:

5.129883E+18	3.924983E+18	2.520706E+18	1.365451E+18
6.279150E+17	2.470286E+17	8.386254E+16	2.479540E+16
6.445957E+15	1.487492E+15	3.075579E+14	5.749143E+13
9.798968E+12	1.535047E+12	2.226596E+11	3.010923E+10
3.819506E+09	4.571246E+08	5.188307E+07	5.610651E+06

Species 2 Distribution Function Contour Plot



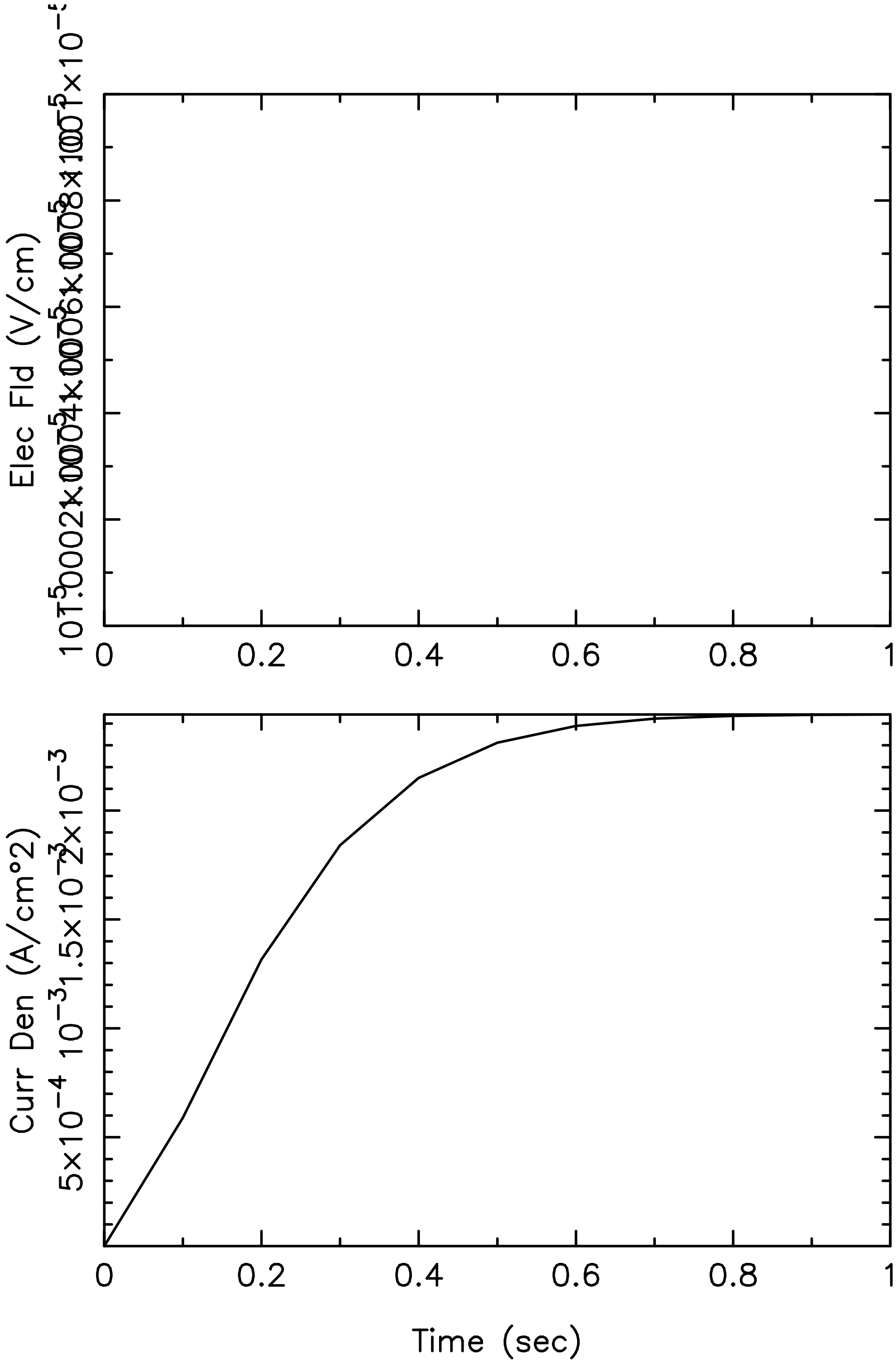
time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contour values:

1.913656E+16	1.454393E+16	9.241779E+15	4.937846E+15
2.234867E+15	8.644065E+14	2.885147E+14	8.395876E+13
2.152554E+13	4.912708E+12	1.008102E+12	1.877680E+11
3.202754E+10	5.043972E+09	7.389839E+08	1.014107E+08
1.311632E+07	1.607861E+06	1.877497E+05	2.097807E+04

LOCAL RADIAL QUANTITIES

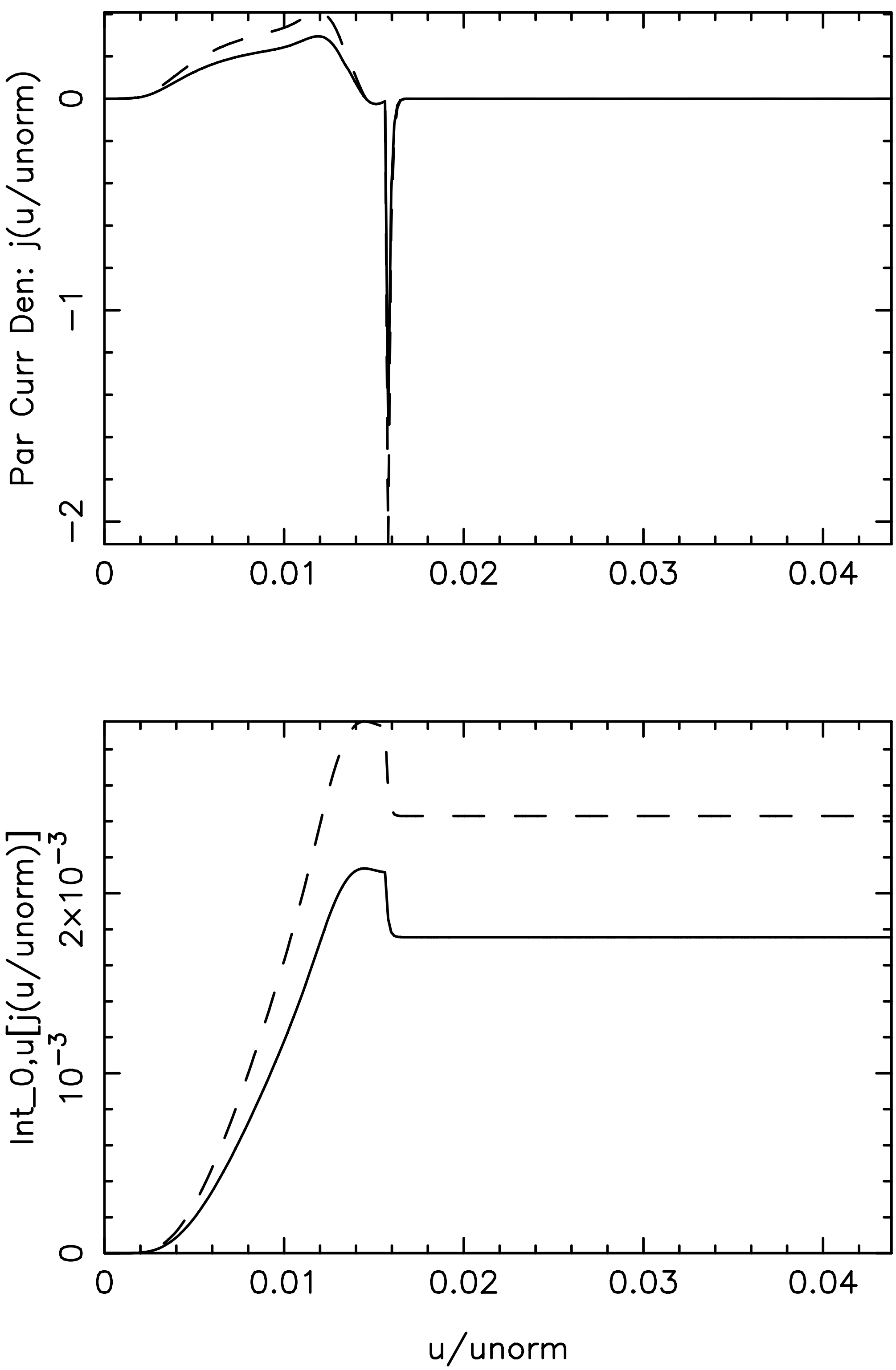
time step n= 10,   time= 1.0000E+00 secs
flux surf= 32   total flux surfs= 38
r/a= 8.00E-01   radial position (r) = 2.04E+02 cms
rya= 8.000E-01   R=rpcon= 7.981E+02 cm
enorm (kev) =   1000.000
vnorm/c =   2.78273
vthe (sqrt(te/me))/c =   0.10085
vthe/vnorm =   0.03624
k= 1 vth(k)/vnorm =   0.00040
k= 2 vth(k)/vnorm =   0.03624
k= 3 vth(k)/vnorm =   0.00040
k= 4 vth(k)/vnorm =   0.00056
k= 5 vth(k)/vnorm =   0.00046
k= 6 vth(k)/vnorm =   0.00026
k= 7 vth(k)/vnorm =   0.00013
k= 8 vth(k)/vnorm =   0.03624



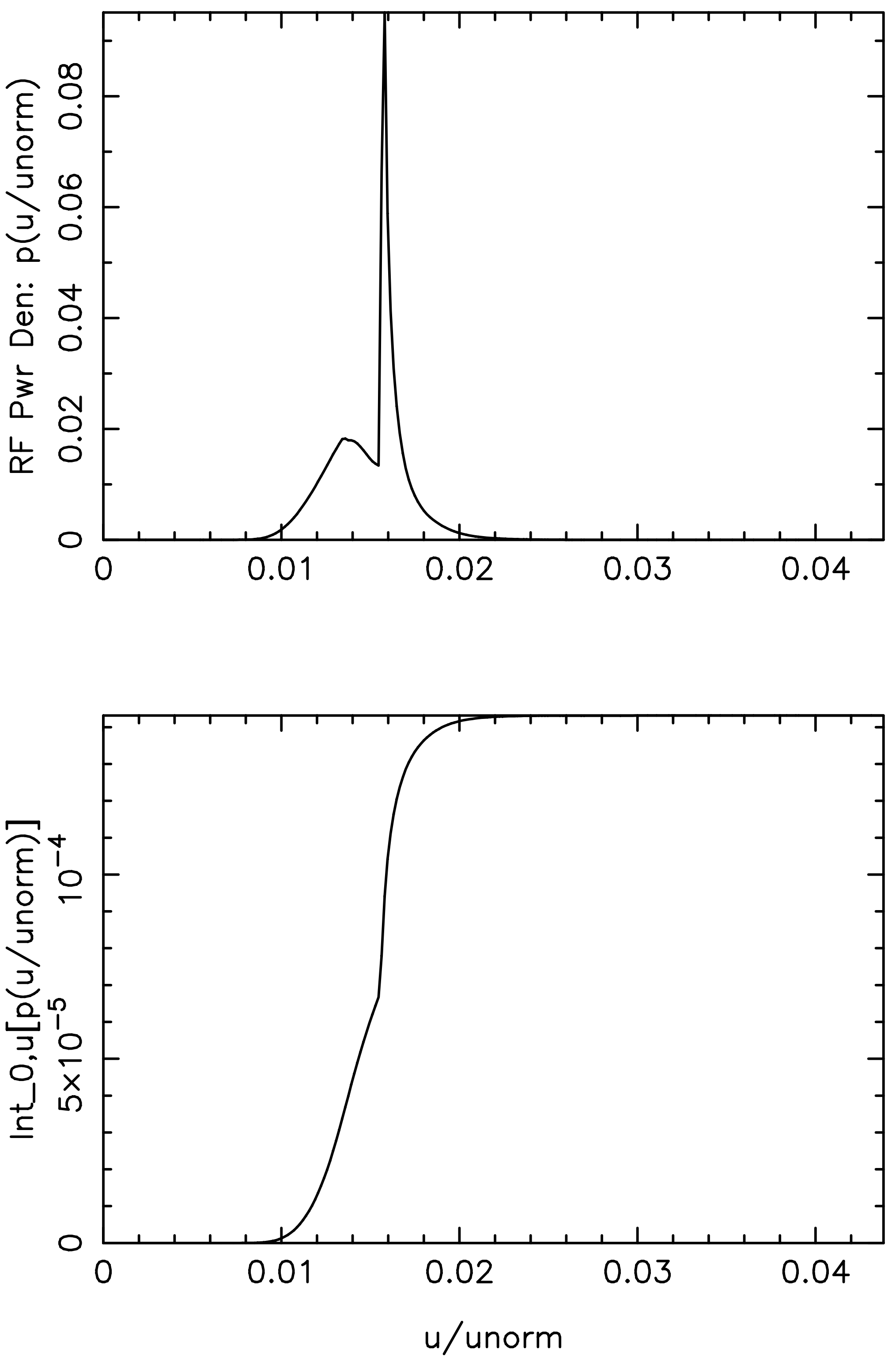
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = 2.4419E−03 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 4.6205E−03 A/W

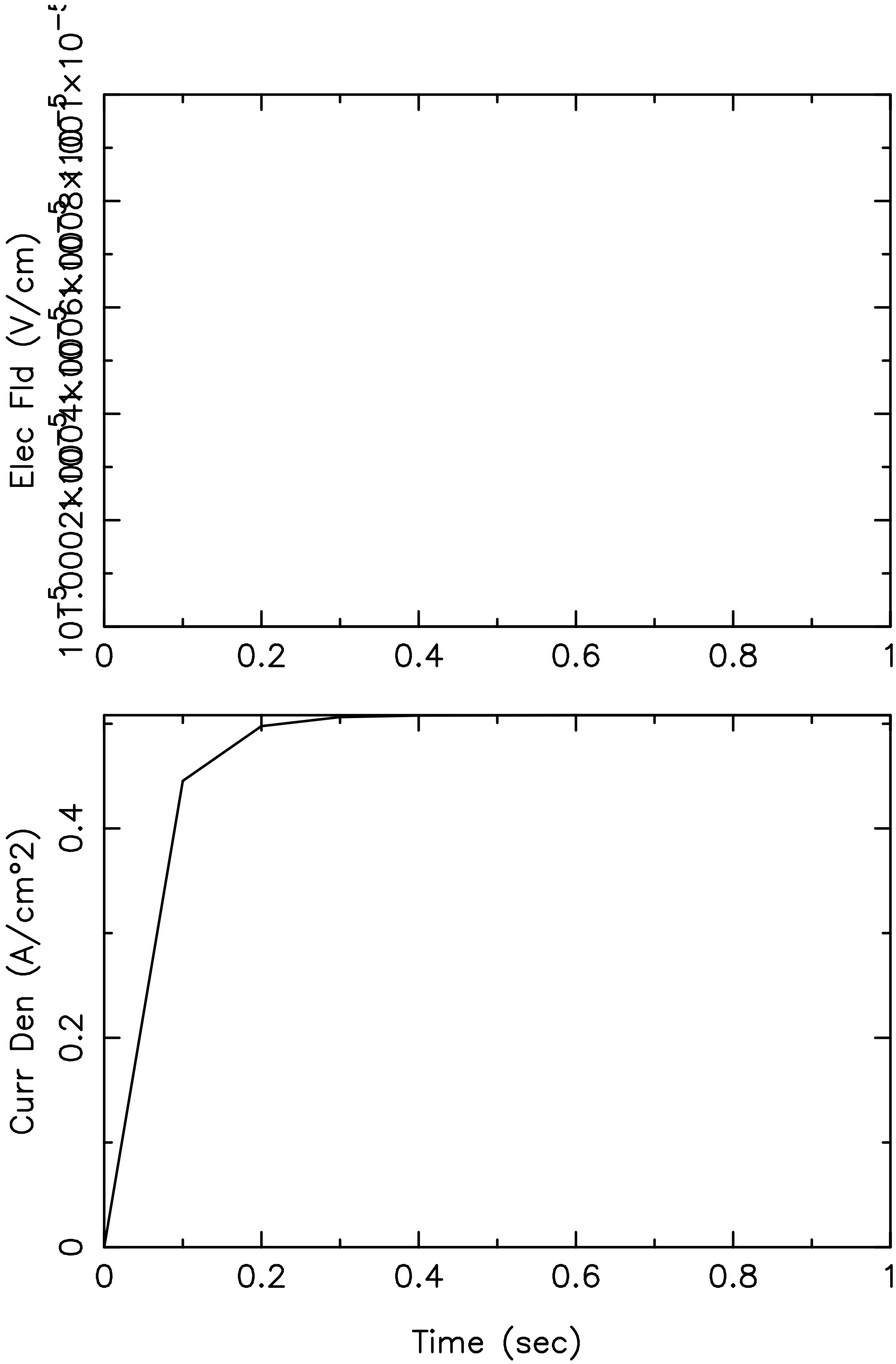
Solid: midplane; Dashed: <..>_FSA



Species: 1 Current(FSA)=0.2430E−02 Amps/cm^2



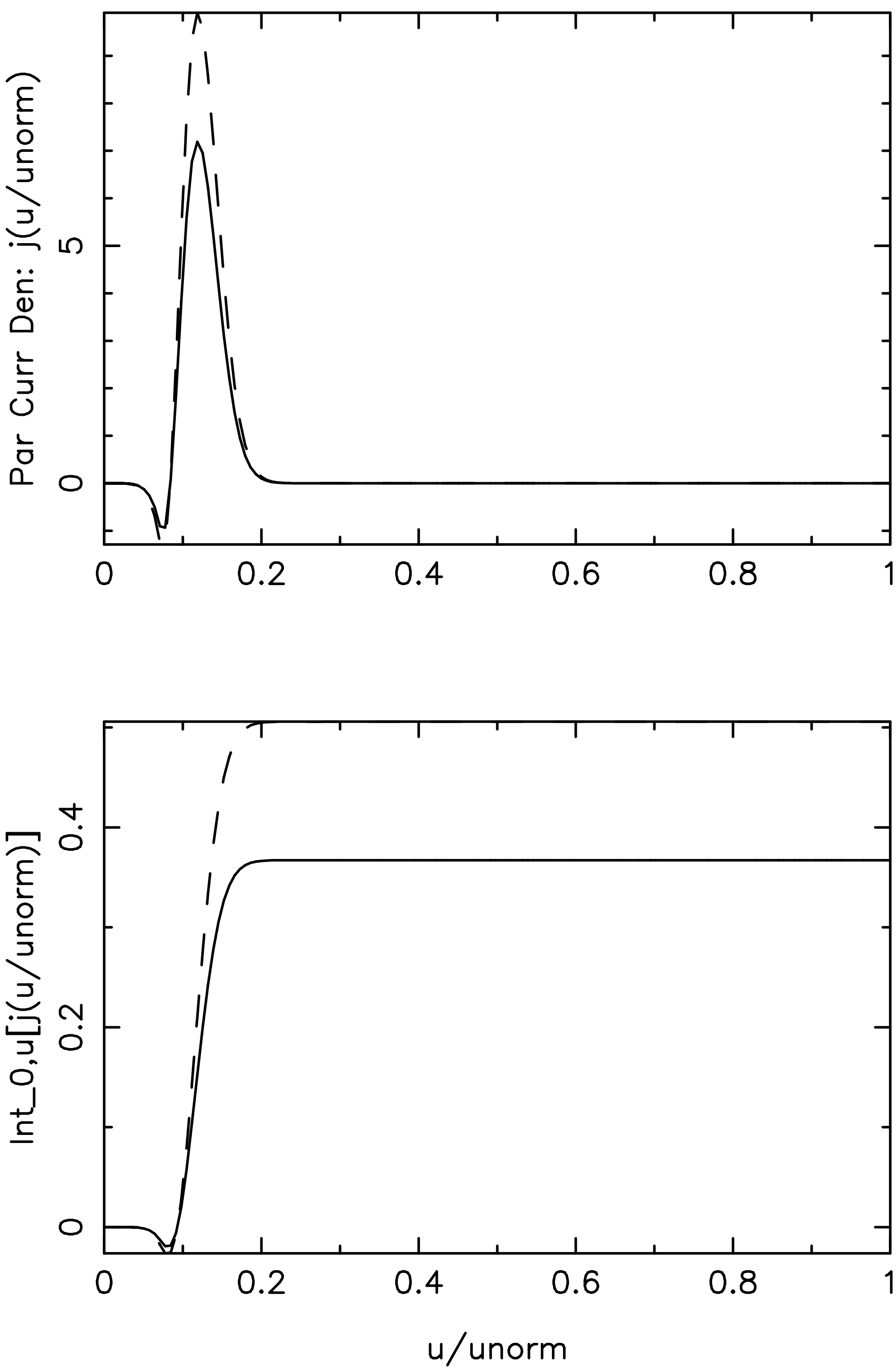
Species: 1 Power =0.1431E−03 Watts/cc



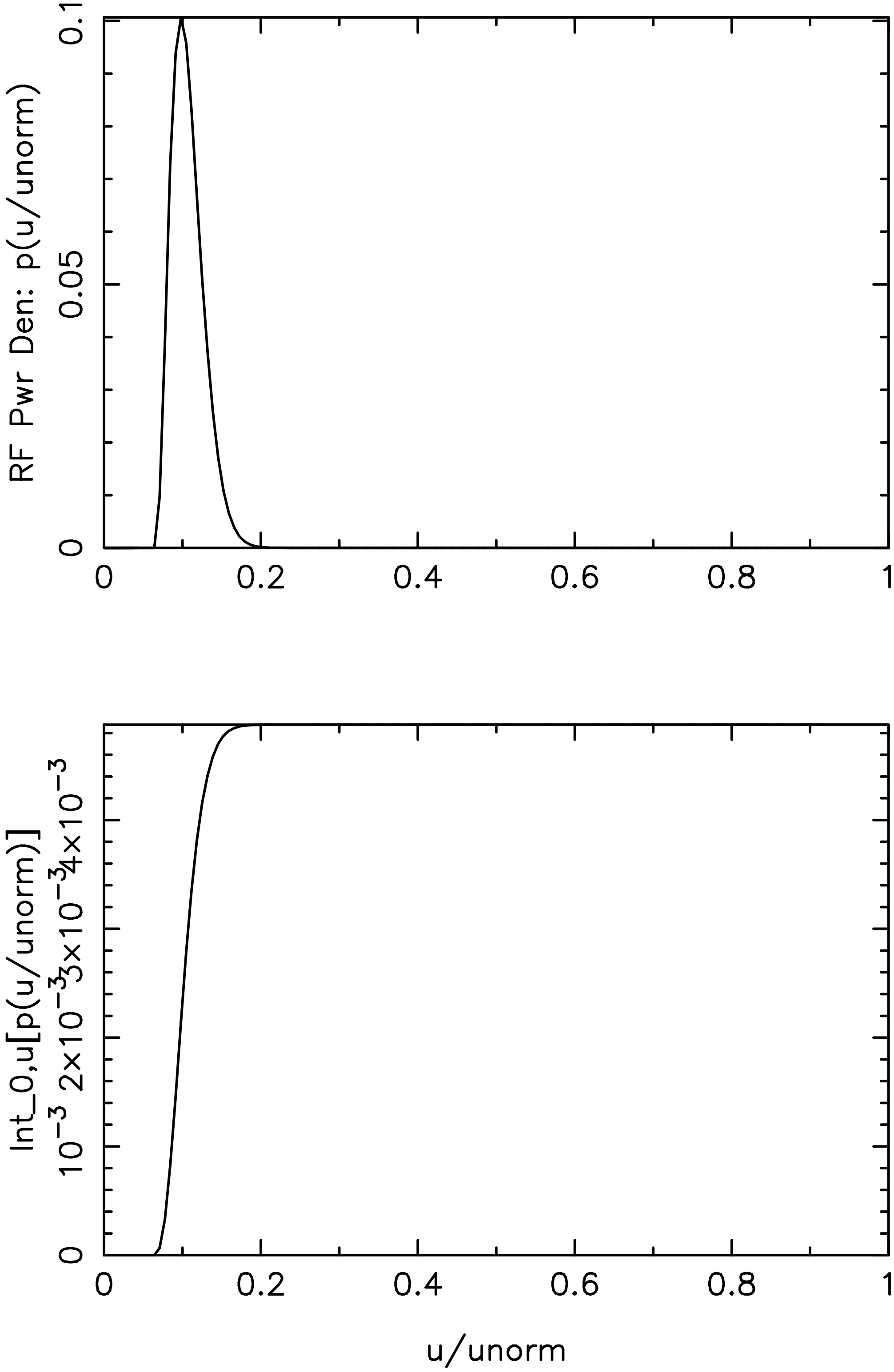
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 5.0806E−01 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 2.8217E−02 A/W
Electron current (units ne*q*vth(kelec,lr_)) = 1.8410E−05
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 1.9305E−06
efficiency (j/p) (Fisch 1978 units) = 9.5366E+00
efficiency (j/p) (e/(m*c*nu_c units) = 9.6988E−02
vth(kelec,lr_) = sqrt(T/m) = 3.0233E+09 cm/sec
nu0 = 5.3211E+04 Hz

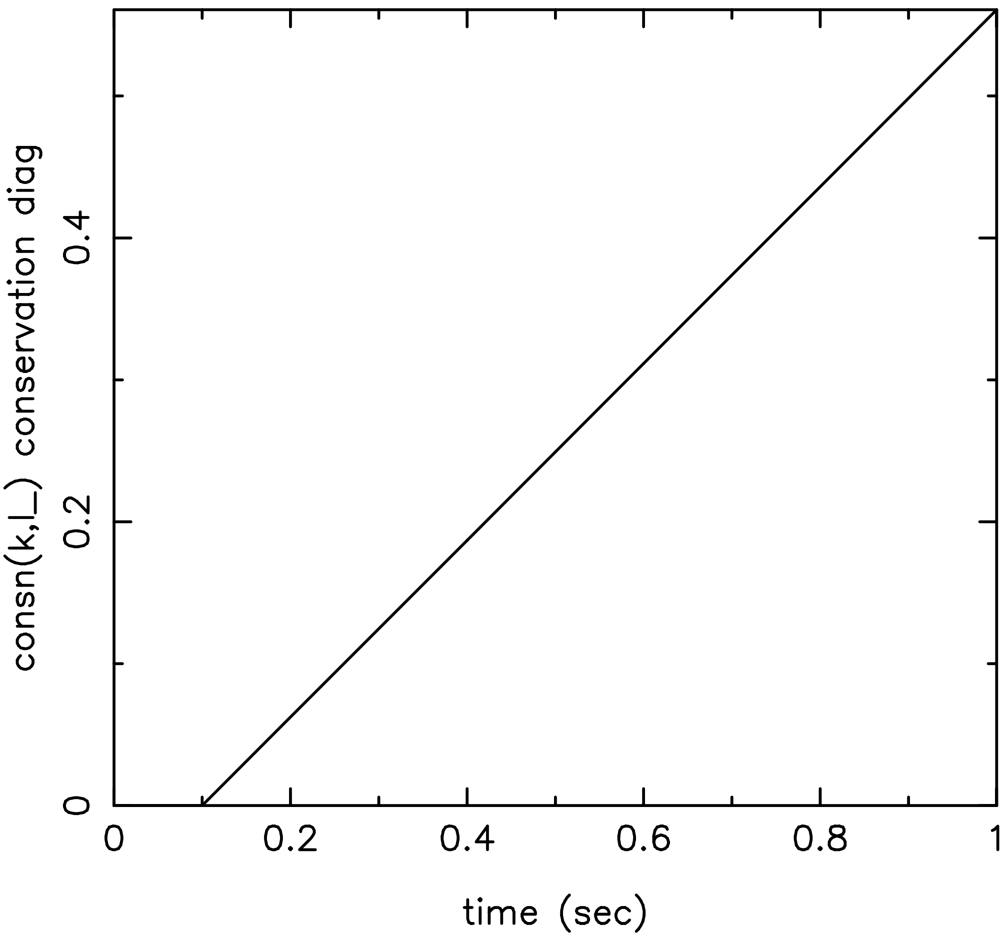
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.5057E+00 Amps/cm^2

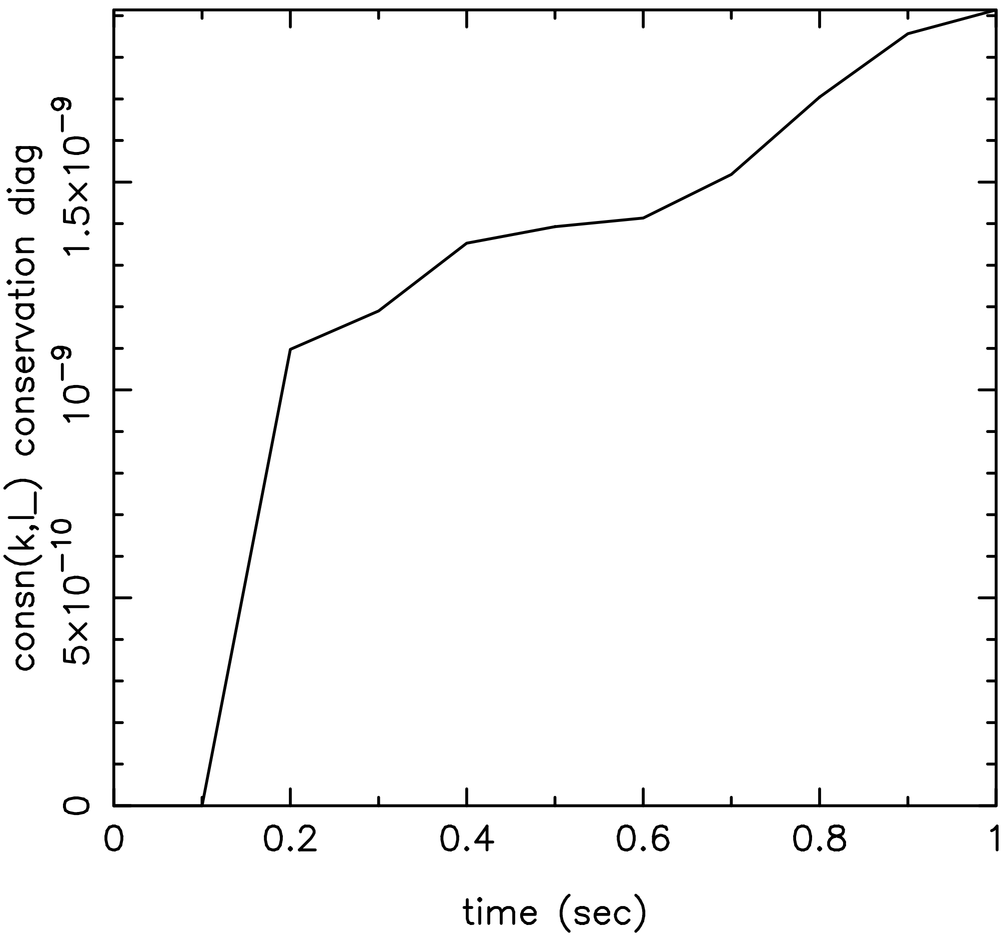


Species: 2 Power =0.4877E−02 Watts/cc



consn(k,l_)= 5.6074E-01
Perfect conservation should yield machine accuracy,
or about 1.e-14:

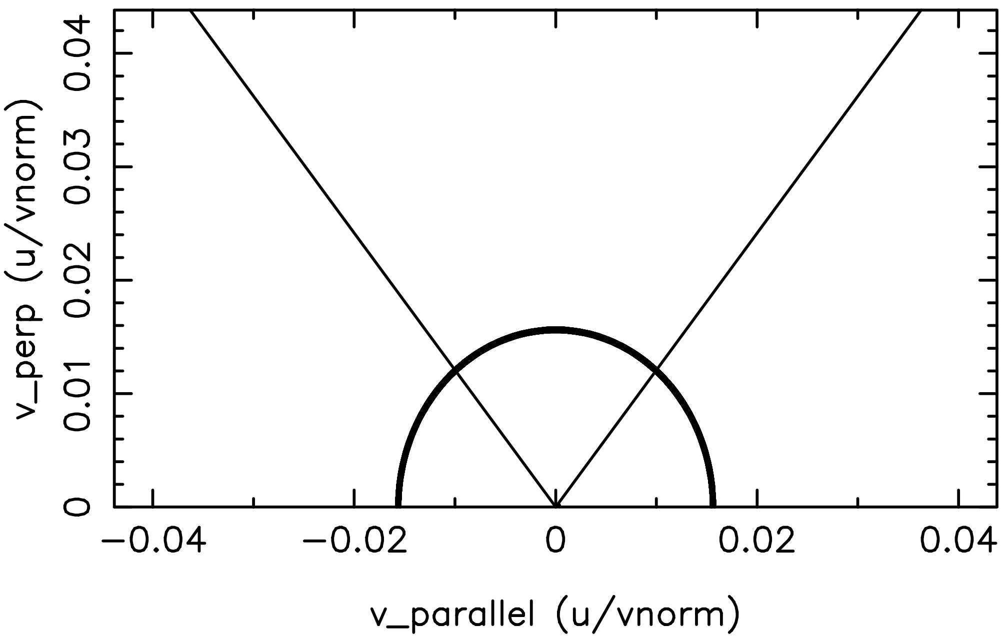
time step (n) is 10 time= 1.0000E+00 secs Species k= 1
r/a= 8.0000E-01 radial position (r) = 7.9814E+02 cm



consn(k,l_)= 1.9139E−09
Perfect conservation should yield machine accuracy,
or about 1.e−14:

time step (n) is 10 time= 1.0000E+00 secs Species k= 2
r/a= 8.0000E−01 radial position (r) = 7.9814E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

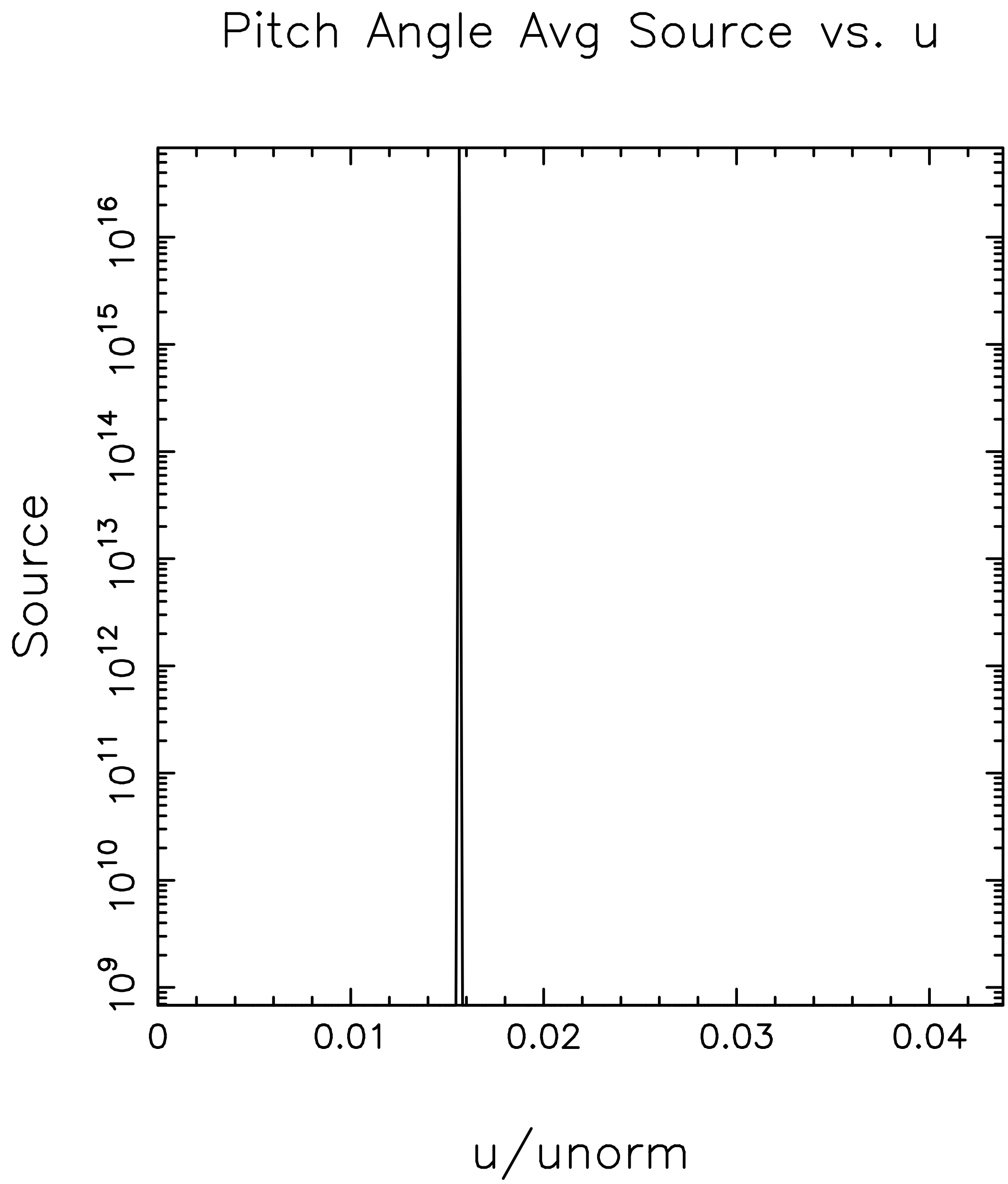
NBI source rate= 0.0000E+00 ptcls/cc/sec

FUS source rate= 9.1259E+09 ptcls/cc/sec

Total source power [entr(..5..)]= 5.1467E−03 W/cc

Contour values:

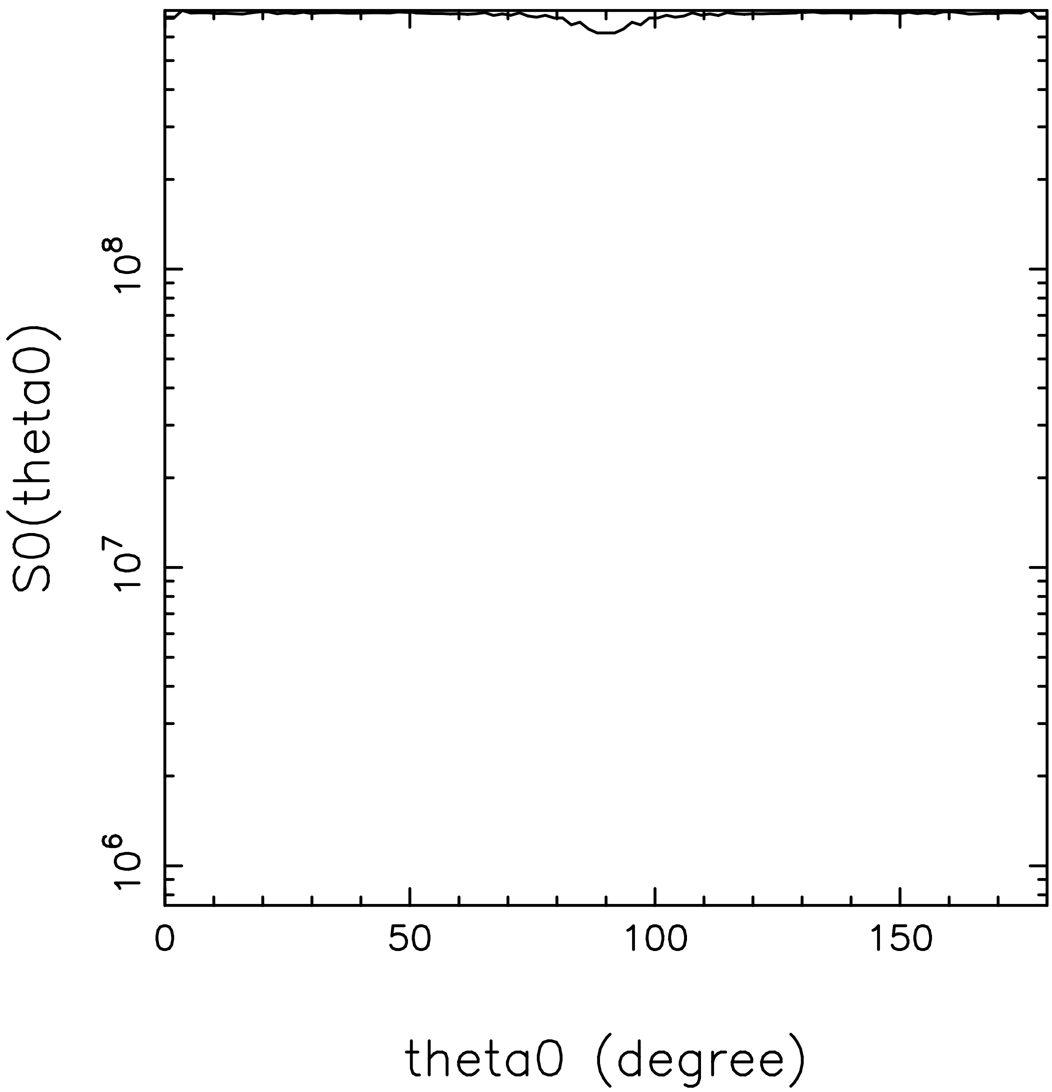
3.5460E+04	1.4117E+05	5.6201E+05	2.2374E+06
8.9072E+06	3.5460E+07	1.4117E+08	5.6201E+08
2.2374E+09	8.9072E+09	3.5460E+10	1.4117E+11
5.6201E+11	2.2374E+12	8.9072E+12	3.5460E+13
1.4117E+14	5.6201E+14	2.2374E+15	8.9072E+15



Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm=   8.3424E+10 cm/s

time step (n) is 10   time= 1.0000E+00 secs
r/a= 8.0000E-01   radial position (r) = 7.9814E+02 cm

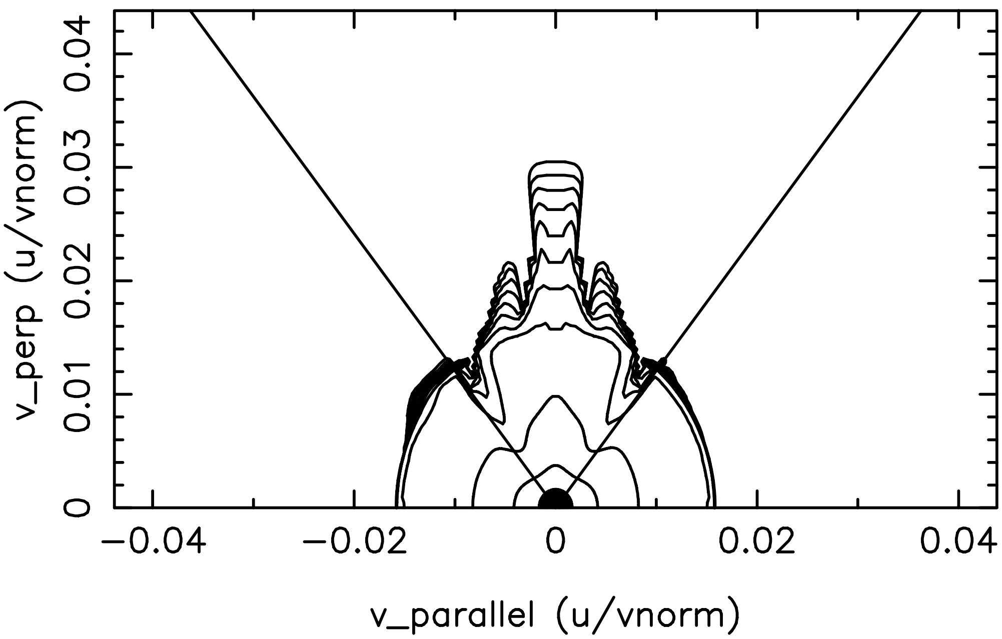
v−integrated Source



Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 10 time= 1.0000E+00 secs
r/a= 8.0000E−01 radial position (r) = 7.9814E+02 cm

Species 1 Distribution Function Contour Plot

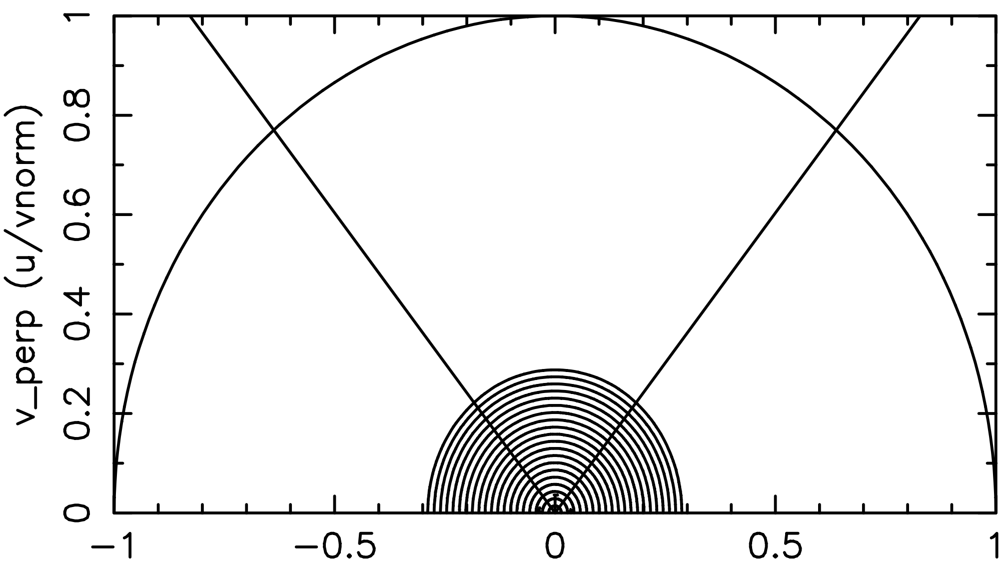


time step n= 10   time= 1.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

Contour values:

1.294926E+19	1.026495E+19	6.977019E+18	4.072543E+18
2.045870E+18	8.869024E+17	3.328445E+17	1.085288E+17
3.086874E+16	7.691824E+15	1.686743E+15	3.270624E+14
5.634829E+13	8.668361E+12	1.196592E+12	1.489519E+11
1.680148E+10	1.725533E+09	1.621041E+08	1.399332E+07

Species 2 Distribution Function Contour Plot



time step n= 10   time= 1.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

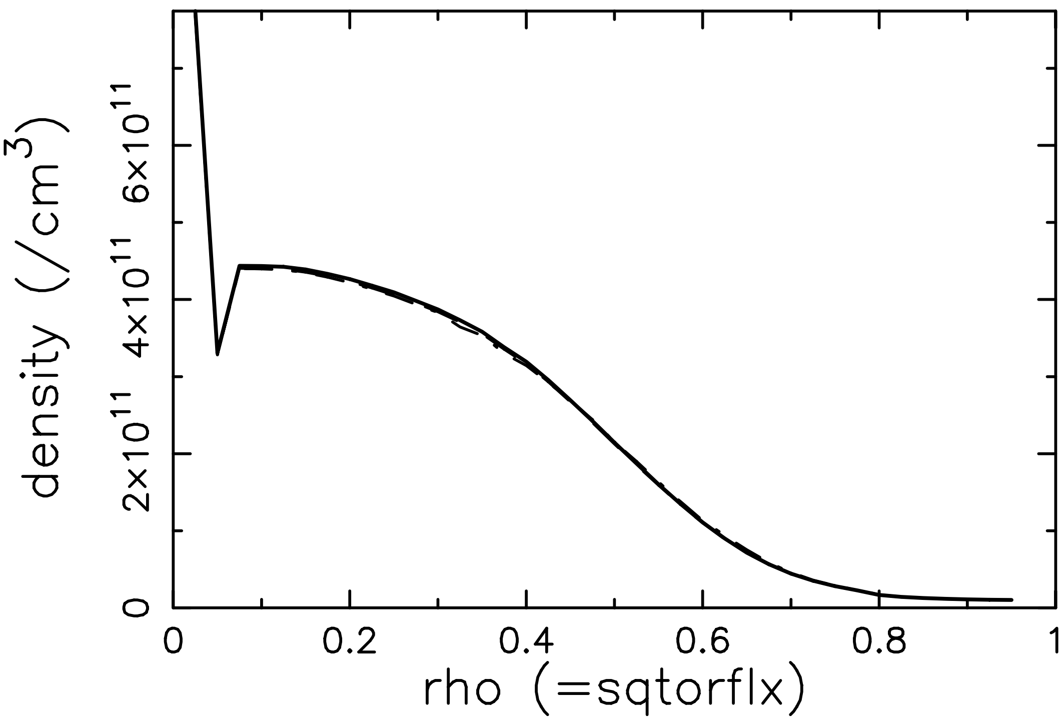
Contour values:

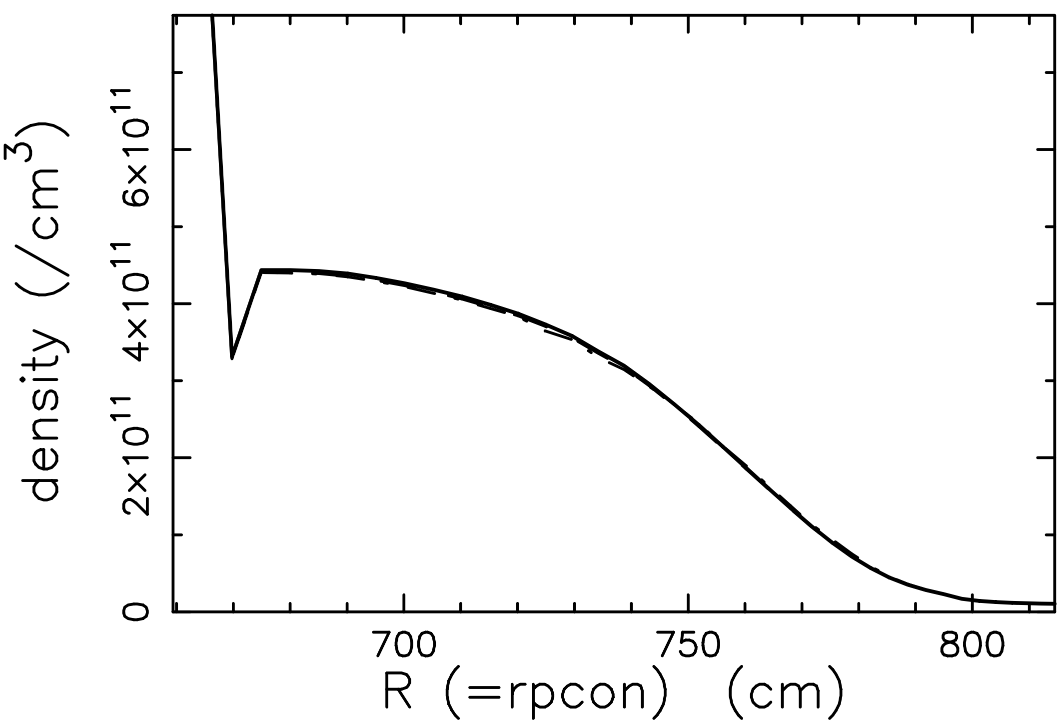
6.855147E+16	5.414722E+16	3.659182E+16	2.119533E+16
1.054966E+16	4.526285E+15	1.680172E+15	5.418575E+14
1.525176E+14	3.765132E+13	8.193918E+12	1.580338E+12
2.715763E+11	4.180866E+10	5.797103E+09	7.278337E+08
8.317385E+07	8.694992E+06	8.356029E+05	7.416829E+04

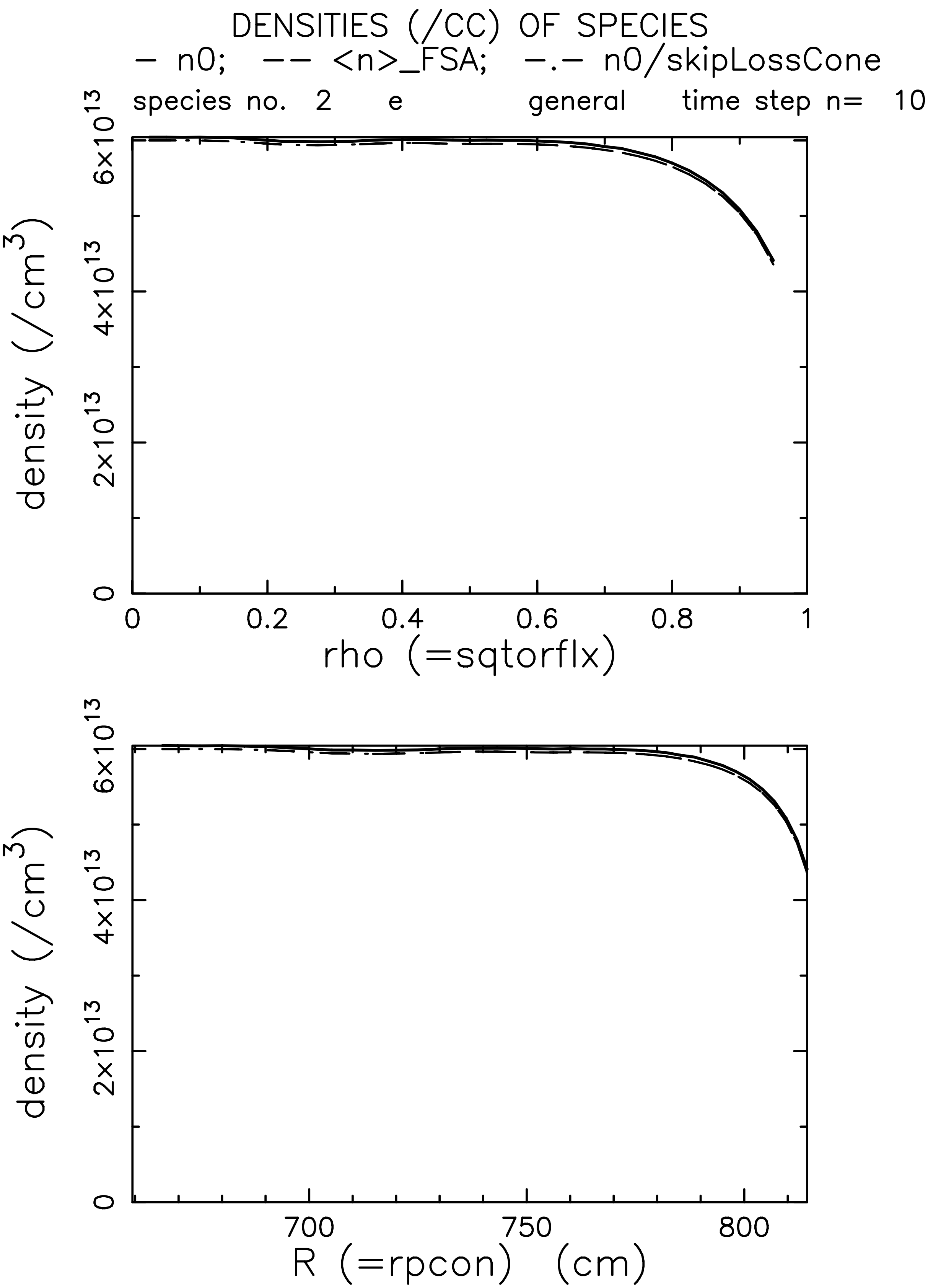
DENSITIES (/CC) OF SPECIES

– n0; –– <n>_FSA; –.– n0/skipLossCone

species no. 1 He general time step n= 10



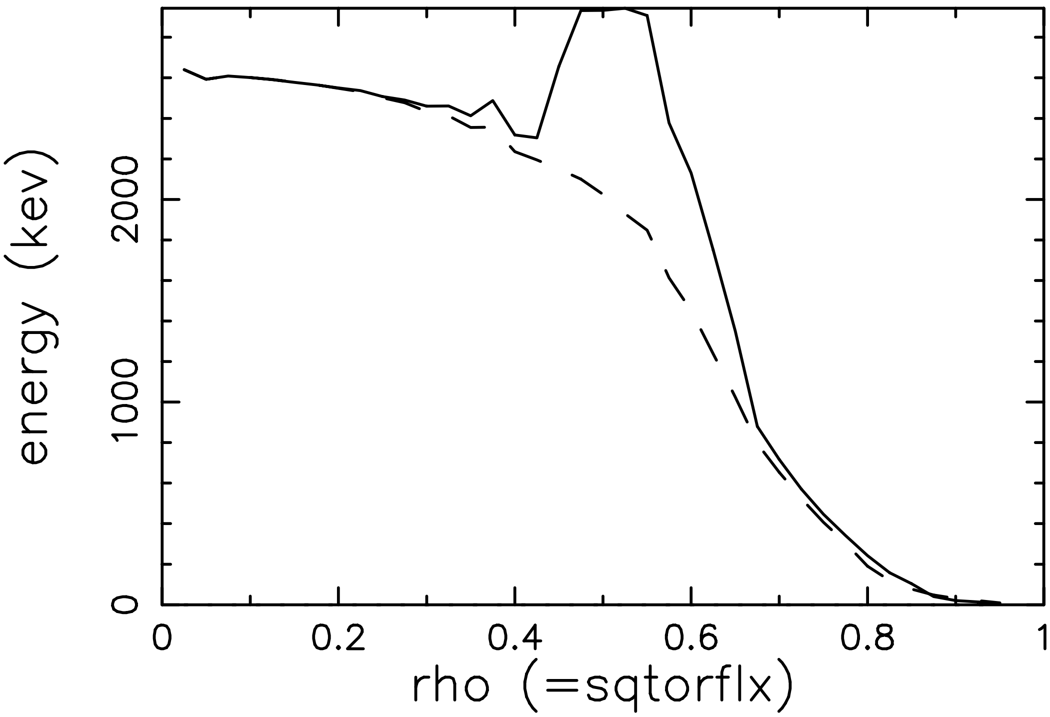


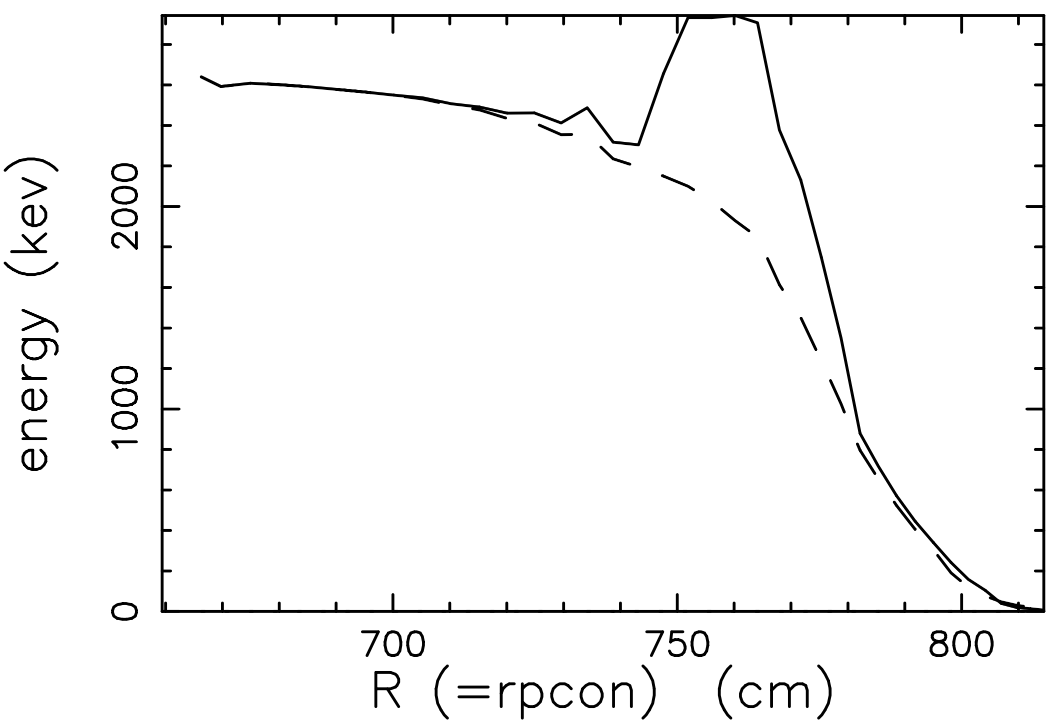


DENSITIES (/CC) OF SPECIES
— n0; -- <n>_FSA; —.— n0/skipLossCone
species no. 2 e general time step n= 10
density (/cm^3)
6×10^13
4×10^13
2×10^13
0
0.2
0.4
0.6
0.8
1
rho (=sqtorflx)
density (/cm^3)
6×10^13
4×10^13
2×10^13
0
700
750
800
R (=rpcon) (cm)

ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

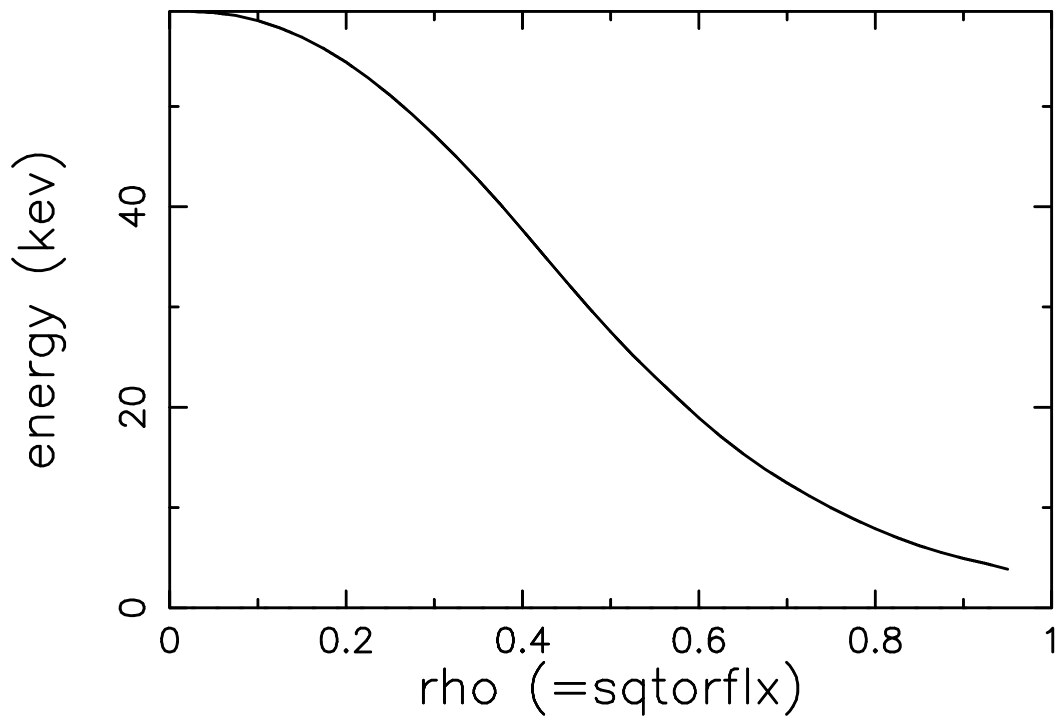
species no. 1 He general time step n= 10

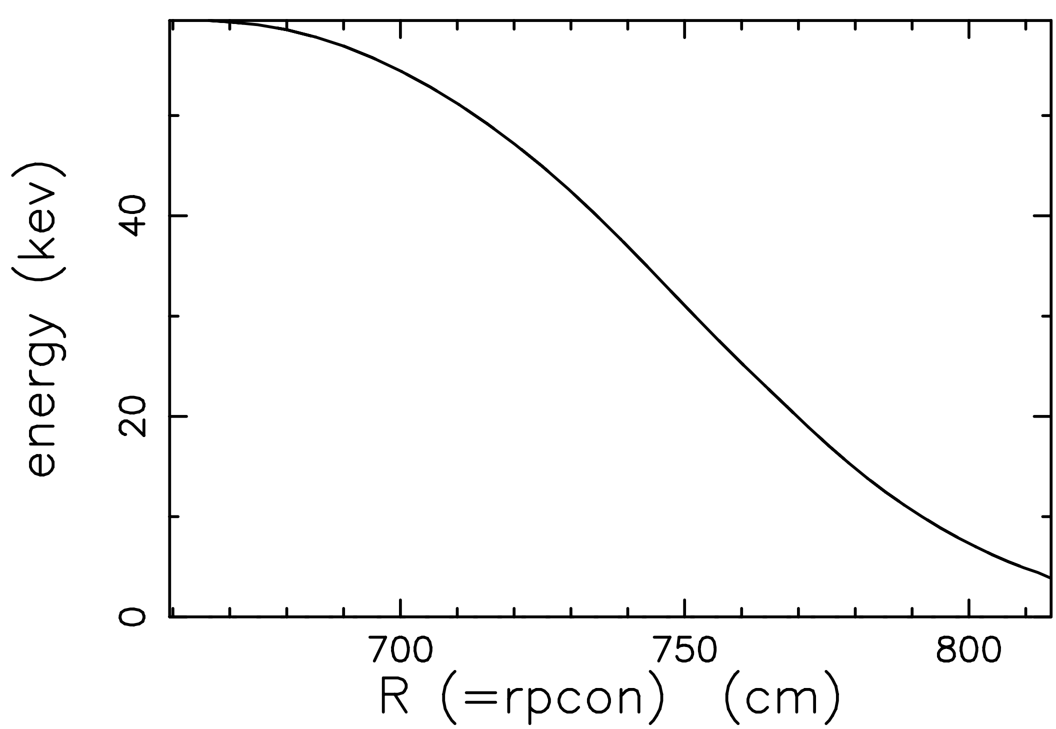




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

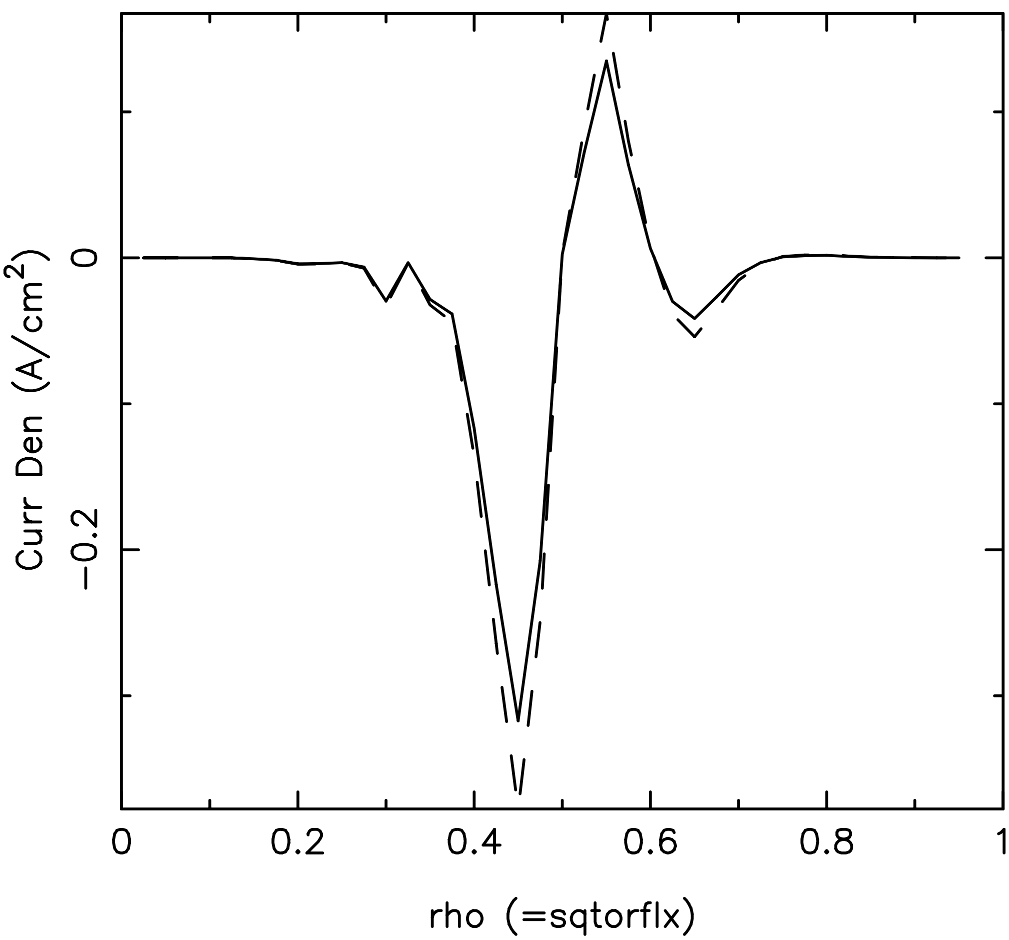
species no. 2 e general time step n= 10





FLUX SURF. AV. CURNT. (AMPS/CM^2)
Solid: midplane; Dashed: <..>_FSA

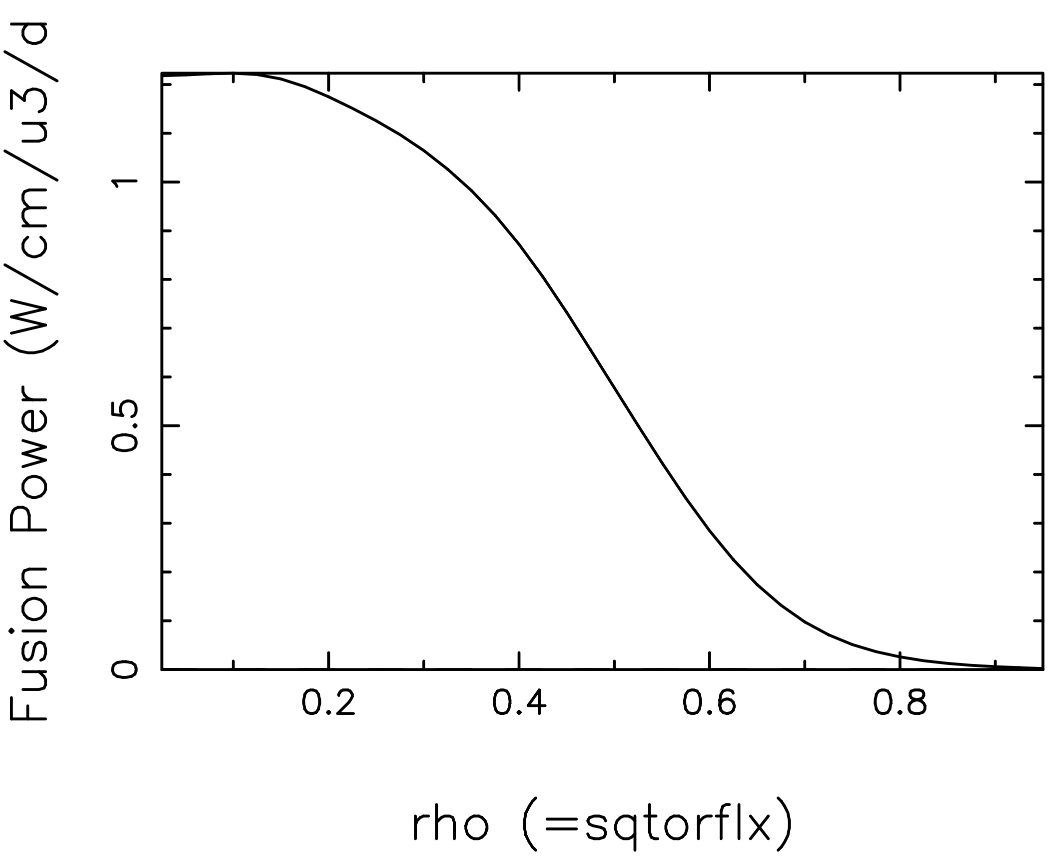
Species: 1 Total current =   −0.450692E+04 Amps



Fusion Power (Watts/cm^3)

species no. 1 He general time step n= 10
Fusion reaction number 1
d+t=>alpha(3.5MeV)+n(14.1MeV)

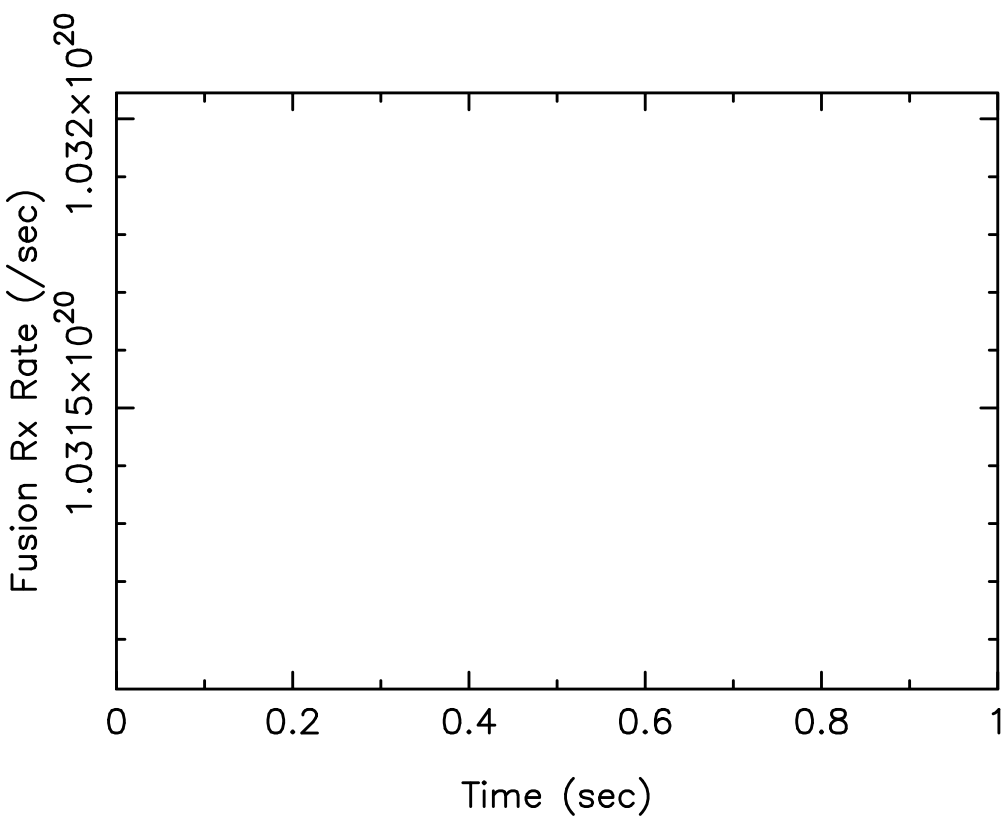
fusion power = 2.906965E+08 Watts



Fusion Rx Rate (/sec) Vs Time

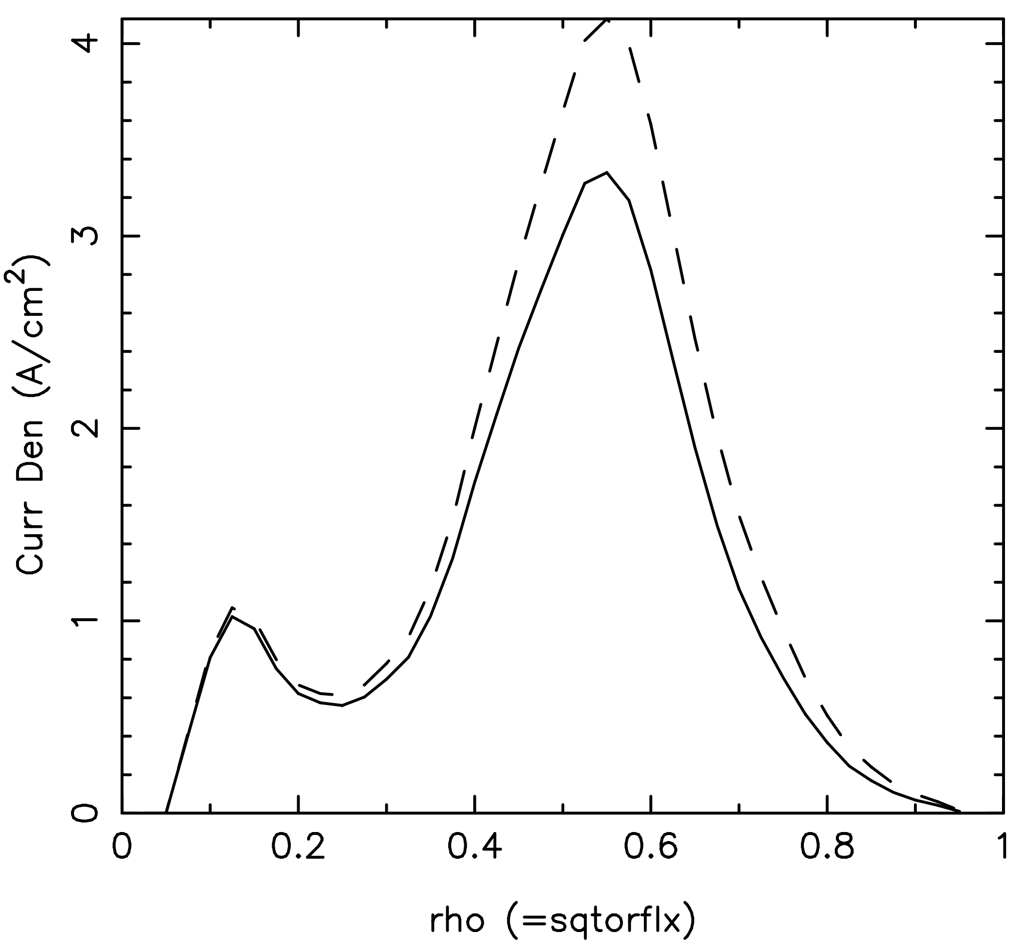
species no. 1 He general time step n= 10
Fusion reaction number 1

Reaction rate = 1.031014E+20 /sec



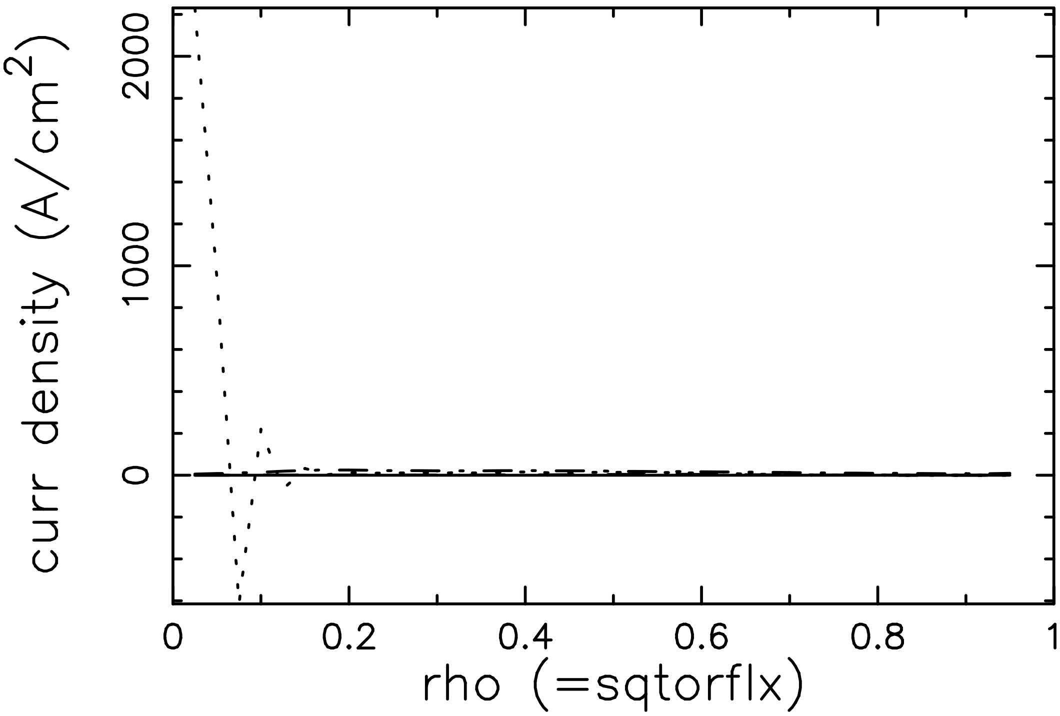
FLUX SURF. AV. CURNT. (AMPS/CM^2)
Solid: midplane; Dashed: <..>_FSA

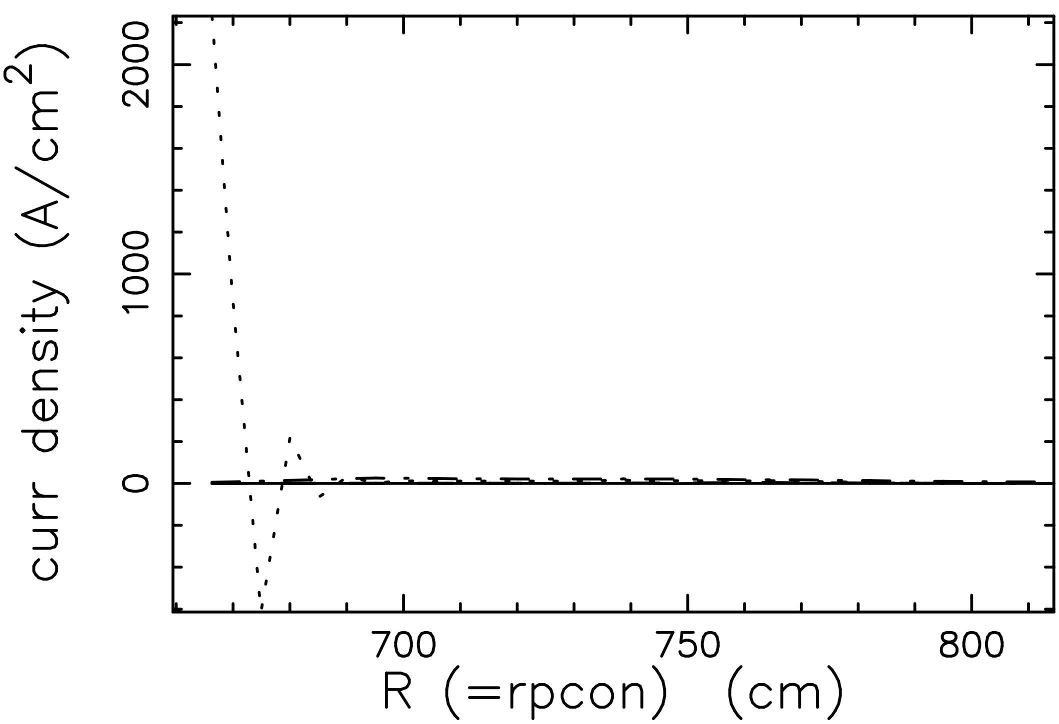
Species: 2 Total current = 0.297990E+06 Amps



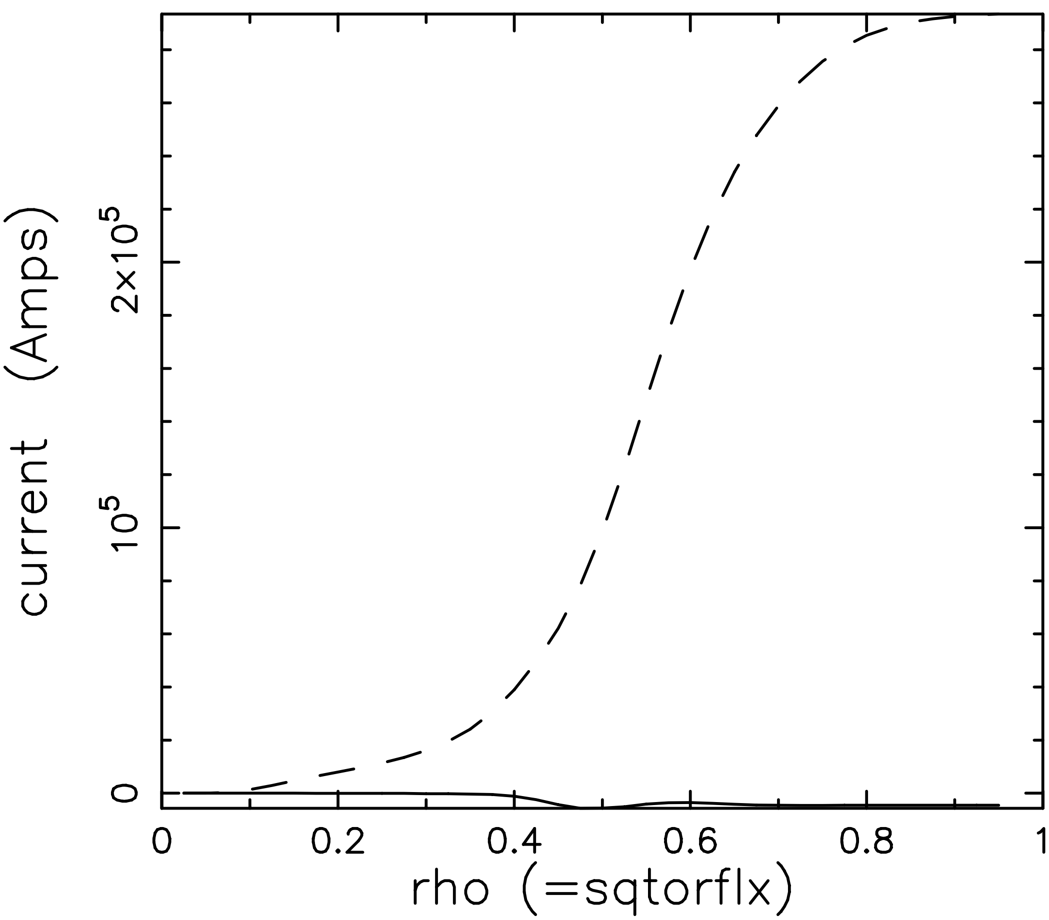
CURRENT (AMPS/CM^2)

fi [solid]= −4.507E+03   fi+e[−−]= 2.935E+05
bs_e[−.−]= 2.991E+06   bs_i[.....]= 2.210E+06 Amps





CURRENT (AMPS)
(INTEGRATED UP TO RHO or PSI)



SOURCE POWER: (WATTS/CC)

rho	NBI+FUS+RF	NBI+FUS	RF	For species k= 1
rho	(sorpwt)	(sorpw_so_fsa)	(sorpw_rf)	
2.500E−02	4.310E−01	4.310E−01	1.922E−40	
5.000E−02	1.809E−01	1.809E−01	8.261E−41	
7.500E−02	2.449E−01	2.445E−01	5.084E−10	
1.000E−01	2.451E−01	2.444E−01	2.516E−07	
1.250E−01	2.448E−01	2.438E−01	1.068E−06	
1.500E−01	2.430E−01	2.419E−01	3.225E−07	
1.750E−01	2.398E−01	2.387E−01	9.138E−07	
2.000E−01	2.361E−01	2.349E−01	7.024E−05	
2.250E−01	2.319E−01	2.304E−01	1.799E−04	
2.500E−01	2.269E−01	2.251E−01	1.298E−04	
2.750E−01	2.215E−01	2.193E−01	3.240E−04	
3.000E−01	2.156E−01	2.127E−01	5.019E−04	
3.250E−01	2.089E−01	2.052E−01	7.374E−04	
3.500E−01	2.025E−01	1.963E−01	2.265E−03	
3.750E−01	1.963E−01	1.861E−01	5.091E−03	
4.000E−01	1.854E−01	1.745E−01	4.293E−03	
4.250E−01	1.763E−01	1.610E−01	6.983E−03	
4.500E−01	1.696E−01	1.465E−01	1.284E−02	
4.750E−01	1.642E−01	1.312E−01	1.991E−02	
5.000E−01	1.565E−01	1.155E−01	2.425E−02	
5.250E−01	1.434E−01	9.990E−02	2.380E−02	
5.500E−01	1.329E−01	8.469E−02	2.658E−02	
5.750E−01	1.110E−01	7.030E−02	1.887E−02	
6.000E−01	9.373E−02	5.693E−02	1.613E−02	
6.250E−01	7.460E−02	4.501E−02	1.102E−02	
6.500E−01	5.763E−02	3.478E−02	6.842E−03	
6.750E−01	4.215E−02	2.627E−02	2.152E−03	
7.000E−01	3.235E−02	1.944E−02	1.350E−03	
7.250E−01	2.484E−02	1.424E−02	8.328E−04	
7.500E−01	1.889E−02	1.024E−02	5.133E−04	

7.750E-01	1.398E-02	7.281E-03	3.129E-04
8.000E-01	9.065E-03	4.045E-03	1.431E-04
8.250E-01	6.077E-03	2.542E-03	6.748E-05
8.500E-01	4.230E-03	1.642E-03	4.461E-05
8.750E-01	2.762E-03	1.068E-03	2.793E-05
9.000E-01	1.782E-03	6.953E-04	3.420E-06
9.250E-01	1.107E-03	4.542E-04	6.196E-07
9.500E-01	3.083E-04	1.617E-04	7.875E-09

Pwr integr. over radius (RF+NBI+FUS, all gen.species)= 6.8595E+07Watts
P from FUS(+NBI,if present) sources k= 1 (sorpw_so_i)= 5.8129E+07Watt
Power from RF for Gen.species k= 1 (sorpw_rfi)= 4.2392E+06Watts

SOURCE POWER: (WATTS/CC)

rho	NBI+FUS+RF	NBI+FUS	RF	For species k= 2
rho	(sorpwt)	(sorpw_so_fsa)	(sorpw_rf)	
2.500E−02	4.310E−01	0.000E+00	1.751E−42	
5.000E−02	1.809E−01	0.000E+00	1.761E−42	
7.500E−02	2.449E−01	0.000E+00	3.444E−04	
1.000E−01	2.451E−01	0.000E+00	7.287E−04	
1.250E−01	2.448E−01	0.000E+00	9.928E−04	
1.500E−01	2.430E−01	0.000E+00	1.084E−03	
1.750E−01	2.398E−01	0.000E+00	1.079E−03	
2.000E−01	2.361E−01	0.000E+00	1.131E−03	
2.250E−01	2.319E−01	0.000E+00	1.325E−03	
2.500E−01	2.269E−01	0.000E+00	1.586E−03	
2.750E−01	2.215E−01	0.000E+00	1.883E−03	
3.000E−01	2.156E−01	0.000E+00	2.385E−03	
3.250E−01	2.089E−01	0.000E+00	3.004E−03	
3.500E−01	2.025E−01	0.000E+00	3.885E−03	
3.750E−01	1.963E−01	0.000E+00	5.138E−03	
4.000E−01	1.854E−01	0.000E+00	6.679E−03	
4.250E−01	1.763E−01	0.000E+00	8.283E−03	
4.500E−01	1.696E−01	0.000E+00	1.028E−02	
4.750E−01	1.642E−01	0.000E+00	1.308E−02	
5.000E−01	1.565E−01	0.000E+00	1.672E−02	
5.250E−01	1.434E−01	0.000E+00	1.968E−02	
5.500E−01	1.329E−01	0.000E+00	2.160E−02	
5.750E−01	1.110E−01	0.000E+00	2.179E−02	
6.000E−01	9.373E−02	0.000E+00	2.067E−02	
6.250E−01	7.460E−02	0.000E+00	1.857E−02	
6.500E−01	5.763E−02	0.000E+00	1.601E−02	
6.750E−01	4.215E−02	0.000E+00	1.373E−02	
7.000E−01	3.235E−02	0.000E+00	1.155E−02	
7.250E−01	2.484E−02	0.000E+00	9.766E−03	
7.500E−01	1.889E−02	0.000E+00	8.130E−03	

7.750E−01	1.398E−02	0.000E+00	6.388E−03
8.000E−01	9.065E−03	0.000E+00	4.876E−03
8.250E−01	6.077E−03	0.000E+00	3.468E−03
8.500E−01	4.230E−03	0.000E+00	2.544E−03
8.750E−01	2.762E−03	0.000E+00	1.667E−03
9.000E−01	1.782E−03	0.000E+00	1.083E−03
9.250E−01	1.107E−03	0.000E+00	6.522E−04
9.500E−01	3.083E−04	0.000E+00	1.466E−04

Pwr integr. over radius (RF+NBI+FUS, all gen.species)= 6.8595E+07Watts
Power from RF for Gen.species k= 2 (sorpw_rfi)= 6.2268E+06Watts

DEPOSITED POWER: (WATTS/CC)

rho	TOTAL	RF1	RF2	RF3	RF4	RF5
rho	(powrft)	(powrf(*,harmonic) for harmonics = 1-5)				
0.025	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.050	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.075	0.34E-03	0.13E-56	0.33E-30	0.38E-14	0.26E-10	0.26E-09
0.100	0.72E-03	0.20E-51	0.32E-26	0.18E-13	0.11E-09	0.84E-08
0.125	0.98E-03	0.22E-47	0.43E-23	0.54E-13	0.13E-09	0.20E-07
0.150	0.11E-02	0.25E-29	0.25E-20	0.11E-12	0.13E-09	0.21E-07
0.175	0.11E-02	0.38E-21	0.20E-17	0.17E-12	0.12E-09	0.19E-07
0.200	0.12E-02	0.40E-20	0.11E-16	0.20E-12	0.19E-10	0.15E-07
0.225	0.15E-02	0.69E-18	0.36E-15	0.27E-12	0.70E-10	0.56E-07
0.250	0.17E-02	0.42E-19	0.91E-16	0.74E-13	0.83E-11	0.21E-07
0.275	0.21E-02	0.72E-17	0.16E-14	0.11E-11	0.23E-09	0.76E-07
0.300	0.28E-02	0.43E-22	0.19E-15	0.64E-14	0.45E-13	0.23E-08
0.325	0.36E-02	0.13E-20	0.16E-15	0.20E-14	0.46E-12	0.14E-07
0.350	0.54E-02	0.32E-20	0.11E-15	0.70E-15	0.84E-12	0.16E-07
0.375	0.84E-02	0.19E-19	0.67E-16	0.13E-14	0.44E-11	0.48E-08
0.400	0.10E-01	0.51E-19	0.19E-16	0.39E-16	0.57E-13	0.24E-09
0.425	0.14E-01	0.41E-19	0.27E-17	0.26E-15	0.12E-11	0.12E-08
0.450	0.21E-01	0.23E-19	0.27E-17	0.96E-16	0.95E-13	0.16E-09
0.475	0.31E-01	0.10E-19	0.13E-18	0.18E-16	0.39E-15	0.17E-10
0.500	0.39E-01	0.59E-20	0.28E-18	0.12E-16	0.44E-15	0.69E-11
0.525	0.41E-01	0.31E-21	0.39E-21	0.30E-22	0.45E-15	0.11E-10
0.550	0.45E-01	0.53E-22	0.48E-22	0.20E-23	0.14E-15	0.99E-11
0.575	0.39E-01	0.69E-55	0.77E-41	0.49E-29	0.11E-19	0.37E-11
0.600	0.35E-01	0.18E-58	0.27E-43	0.11E-30	0.16E-20	0.11E-11
0.625	0.29E-01	0.66E-63	0.14E-46	0.78E-33	0.75E-22	0.17E-12
0.650	0.22E-01	0.13E-68	0.80E-51	0.48E-36	0.13E-23	0.13E-13
0.675	0.16E-01	0.31E-76	0.79E-57	0.15E-40	0.85E-27	0.13E-15
0.700	0.13E-01	0.47E-85	0.56E-64	0.46E-46	0.61E-31	0.46E-17
0.725	0.11E-01	-0.38E-94	0.21E-71	0.41E-52	0.14E-35	0.17E-18
0.750	0.87E-02	0.15-100	0.72E-77	0.85E-56	0.10E-37	0.17E-20

Pwr sources integr.over rad(RF+NBI+FUS, all gen.species)= 6.8595E+07W
Power from intern ray diagnostic[powurf(0)]= 1.0020E+07W

mode/harmonic krf, nharm(krf), powurf(krf)=	1	9	1.0533E−10
mode/harmonic krf, nharm(krf), powurf(krf)=	2	10	3.4420E−08
mode/harmonic krf, nharm(krf), powurf(krf)=	3	11	2.2551E−05
mode/harmonic krf, nharm(krf), powurf(krf)=	4	12	7.6099E−03
mode/harmonic krf, nharm(krf), powurf(krf)=	5	13	3.1229E+00
mode/harmonic krf, nharm(krf), powurf(krf)=	6	14	8.5073E+03
mode/harmonic krf, nharm(krf), powurf(krf)=	7	15	6.6824E+05
mode/harmonic krf, nharm(krf), powurf(krf)=	8	16	2.8942E+06
mode/harmonic krf, nharm(krf), powurf(krf)=	9	17	2.1081E+05
mode/harmonic krf, nharm(krf), powurf(krf)=	10	18	−3.4947E+02
mode/harmonic krf, nharm(krf), powurf(krf)=	11	19	−7.0133E−02
mode/harmonic krf, nharm(krf), powurf(krf)=	12	0	6.2385E+06

Power by collisions (from ray data) = 0.0000E+00W
Power by linear damping (from ray data)= 0.0000E+00W

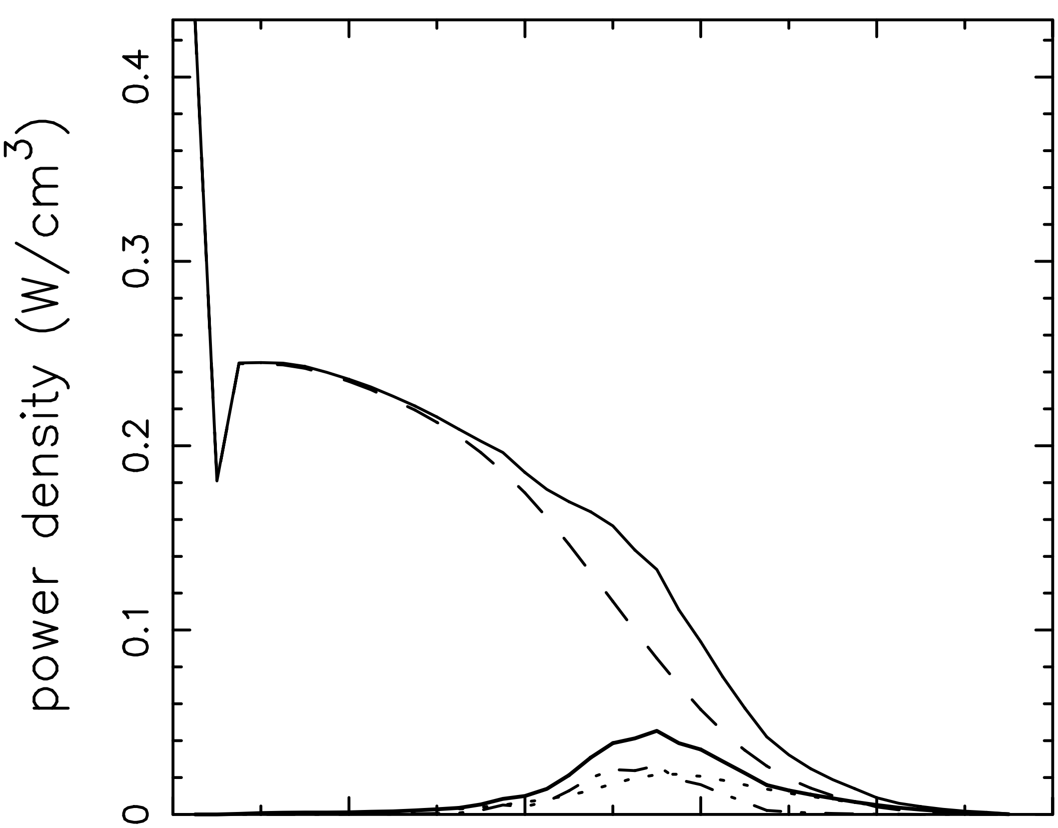
FSA SOURCE POWER DEN: (WATTS/CM^3)

Solid: FusSrc+RF for all gen.species [sorpwt]

Dashed: Fusion Source [sorpw_so_fsa]

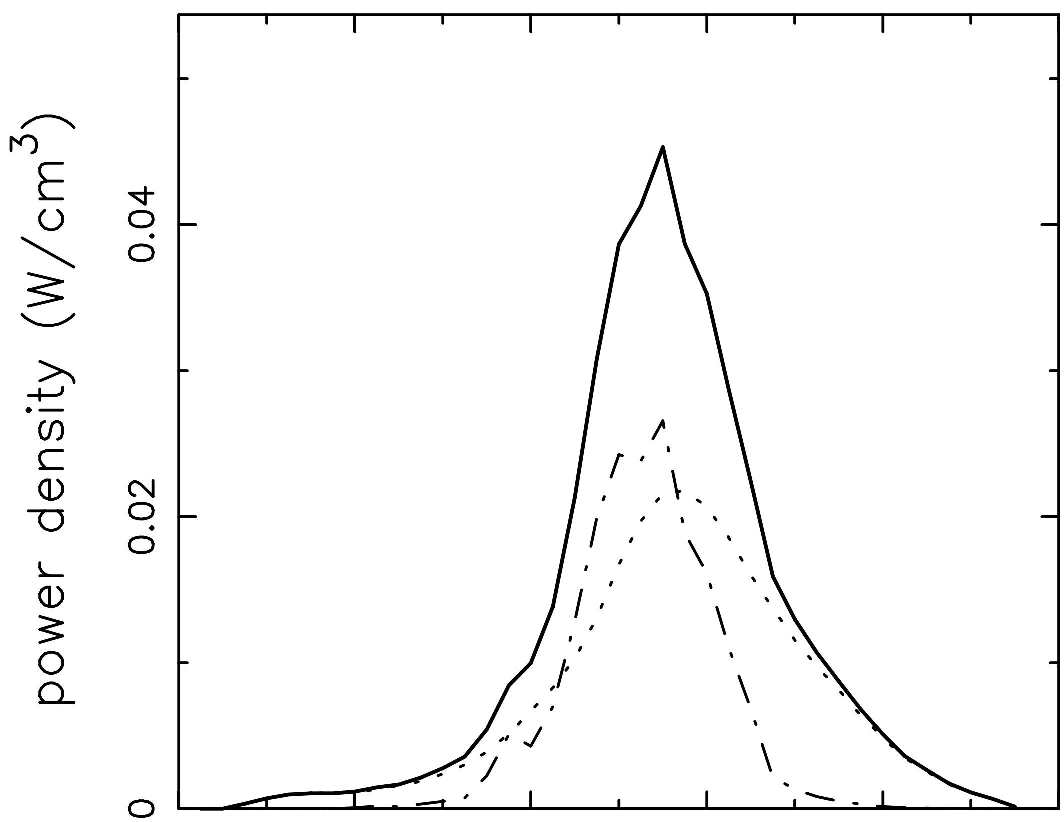
Solid-bold: total absorbed RF power [powrft]

Other: RF general ions (each) [sorpw_rf]



FSA RF POWER DEN: (WATTS/CM^3)

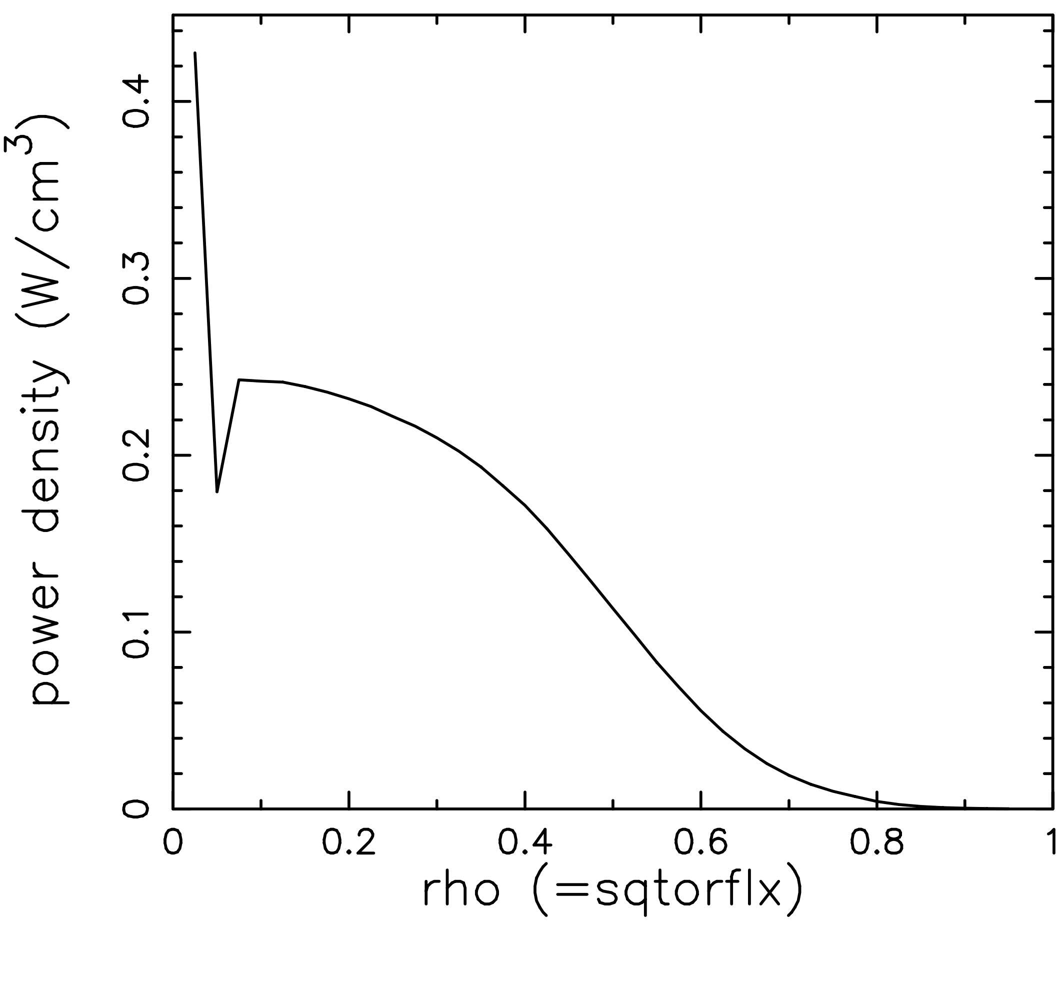
Solid-bold: total absorbed RF power [powrft]
Other: RF general ions (each) [sorpw_rf]



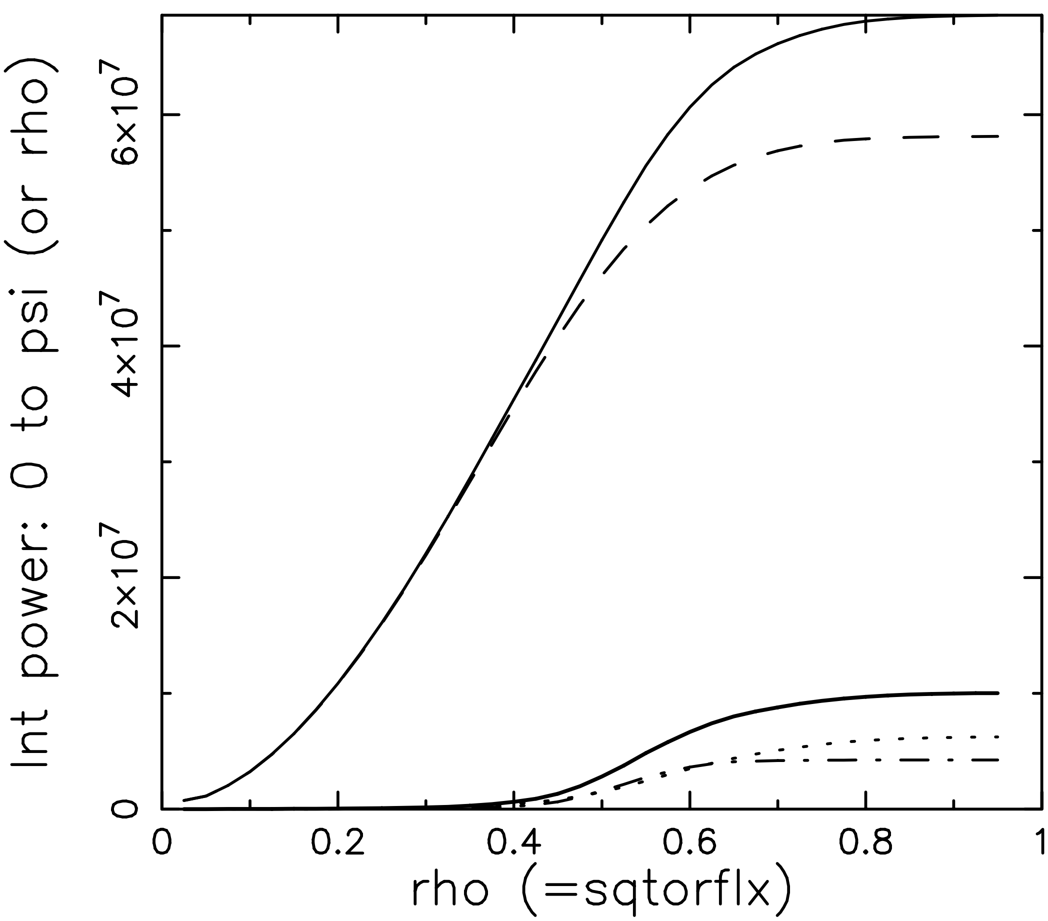
midplane-integrated SOURCE (WATTS/CM^3)

Integral[source*ptcl_enrg*d^3v_0]

Fusion Source [sorpw_so_midpl]

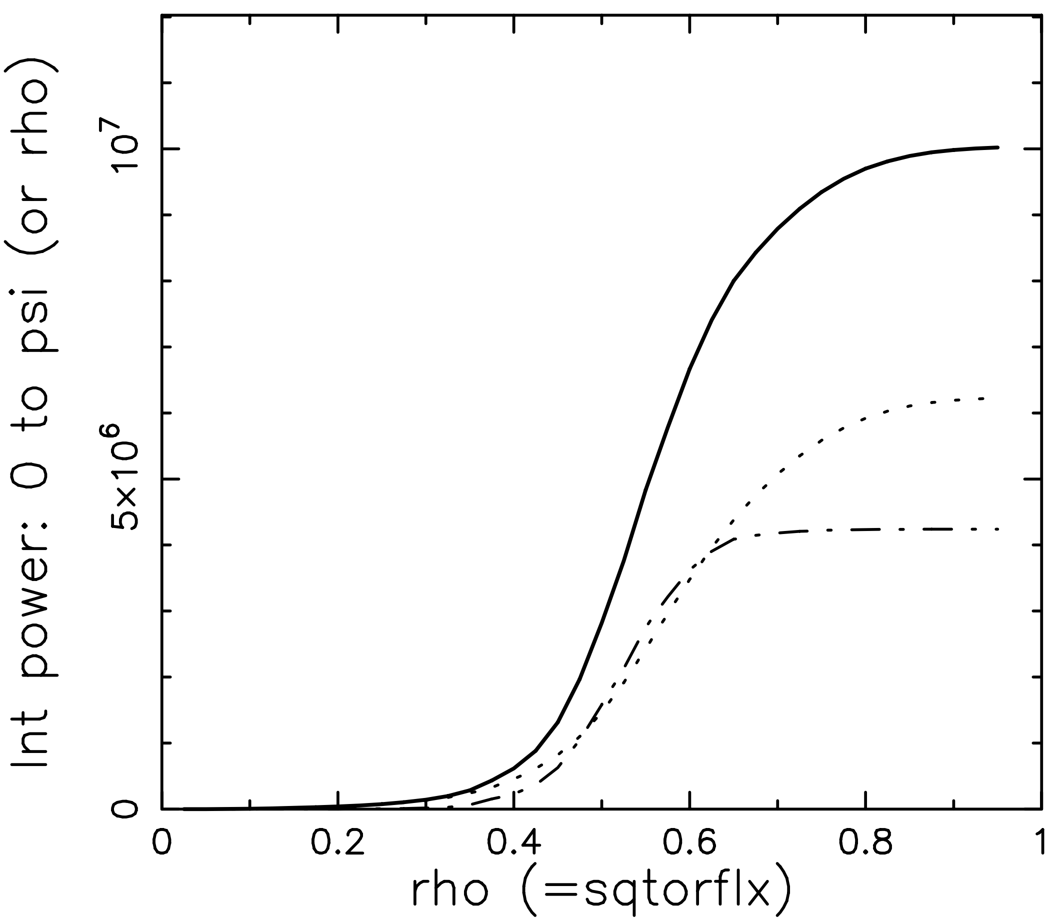


SOURCE POWER (integr. up to rho or psi) (WATTS)
Solid line: FusSrc+RF for all gen.species [sorpwti]
Dashed: Fusion Source [sorpw_so_i]
Solid−bold: total absorbed RF [powurfi(*,0)]
Other: RF general ions (each) [sorpw_rfi]

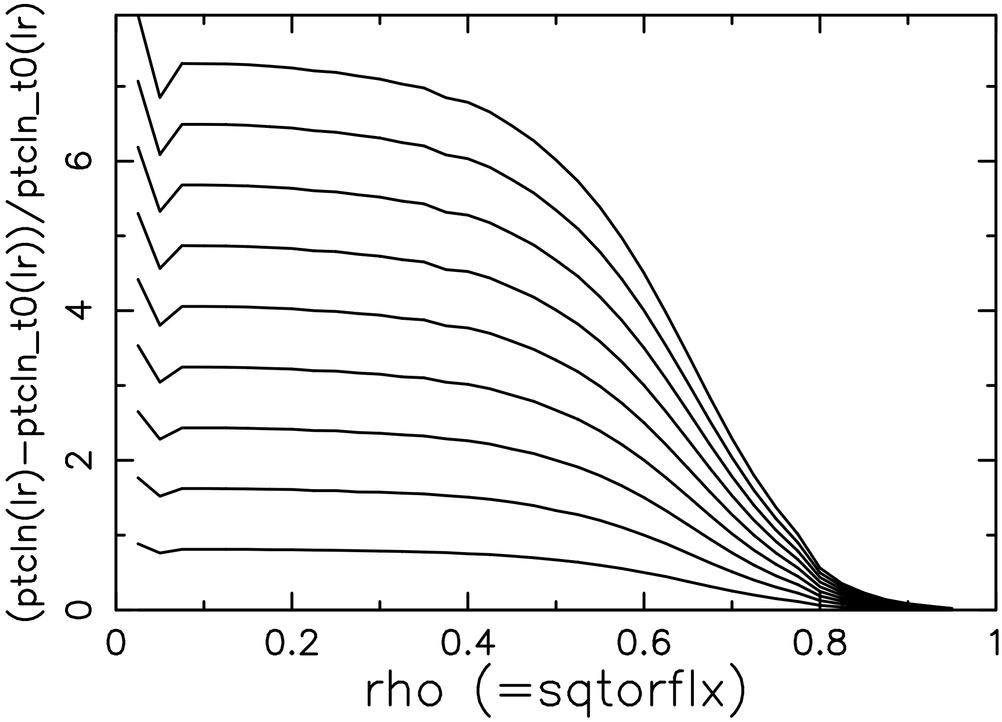


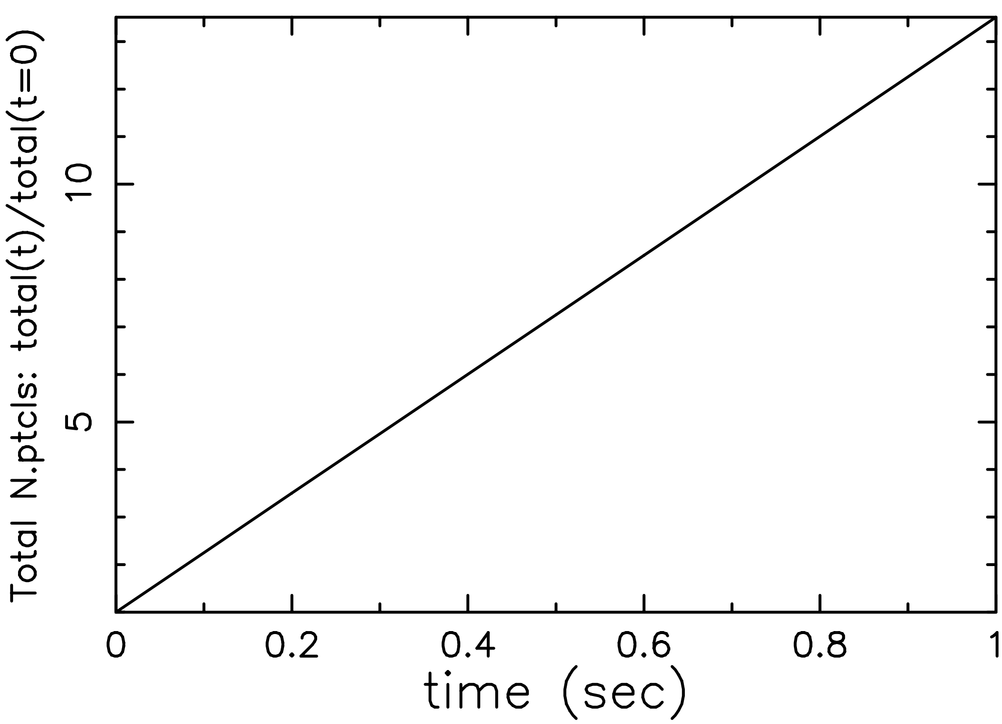
RF POWER (integr. up to rho or psi) (WATTS)

Solid-bold: total absorbed RF [powurfi(*,0)]
Other: RF general ions (each) [sorpw_rfi]

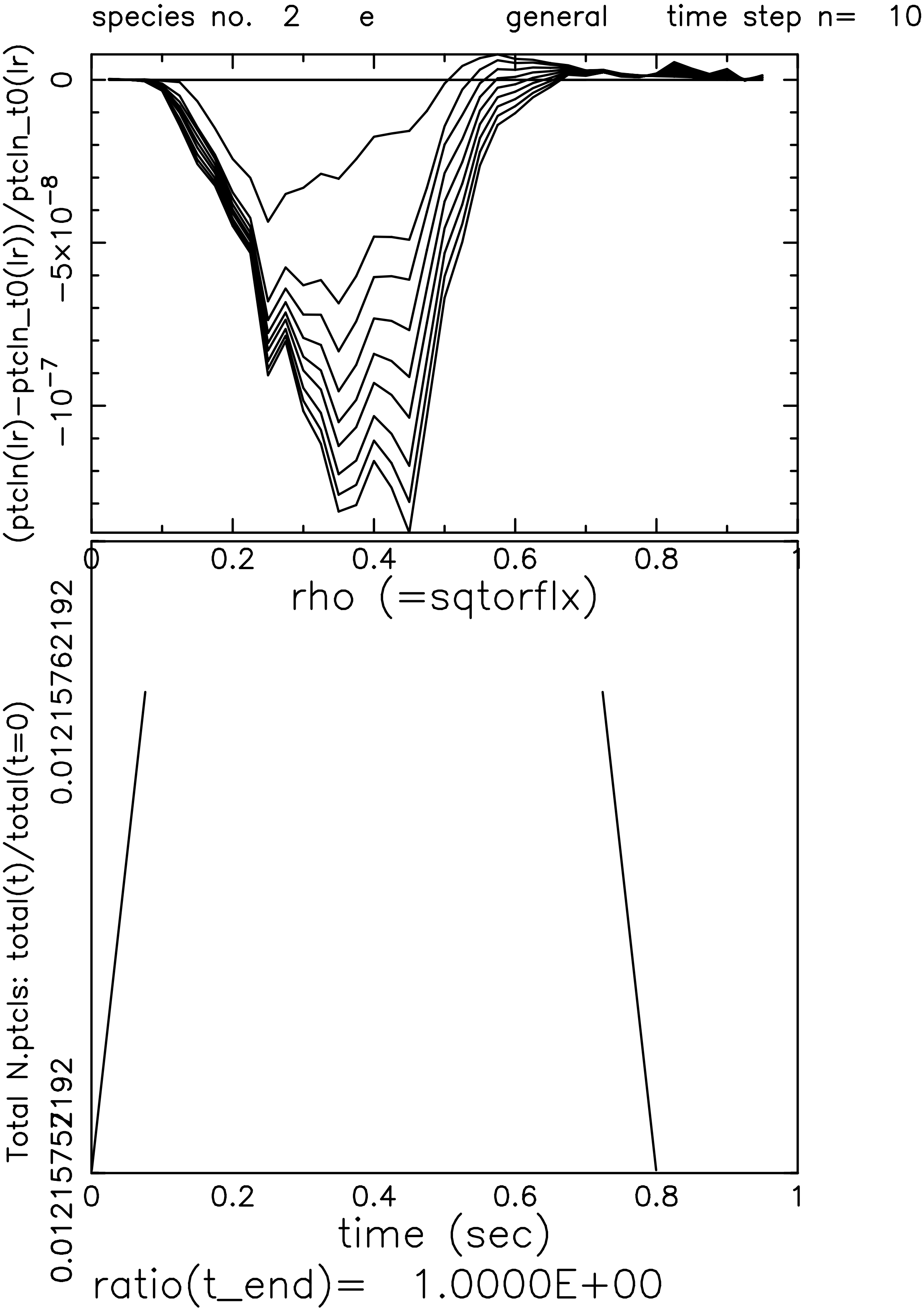


species no. 1 He general time step n= 10



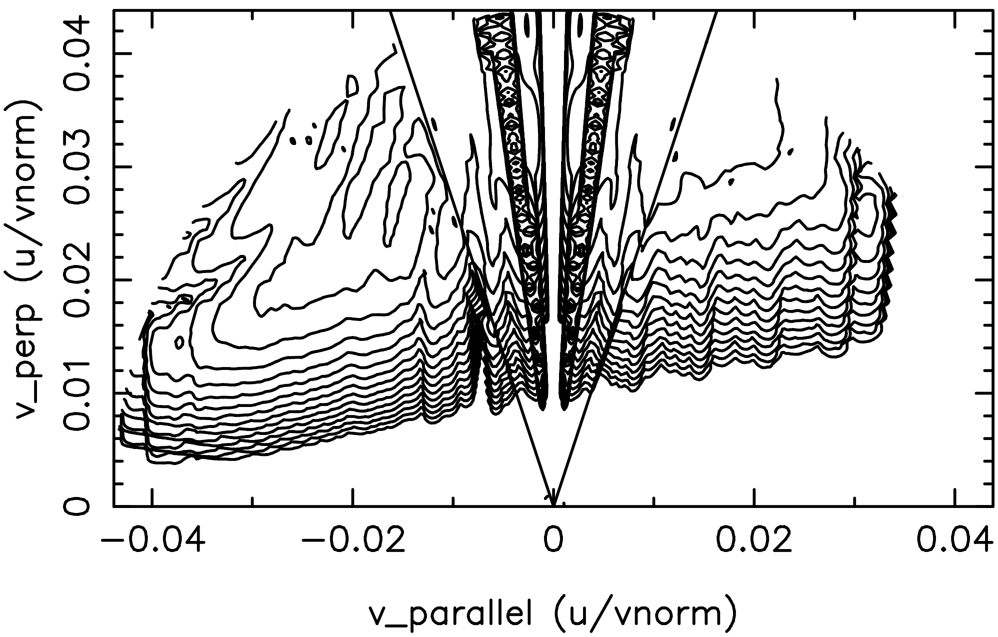


ratio(t_end)= 1.3509E+01



ratio(t_end)= 1.0000E+00

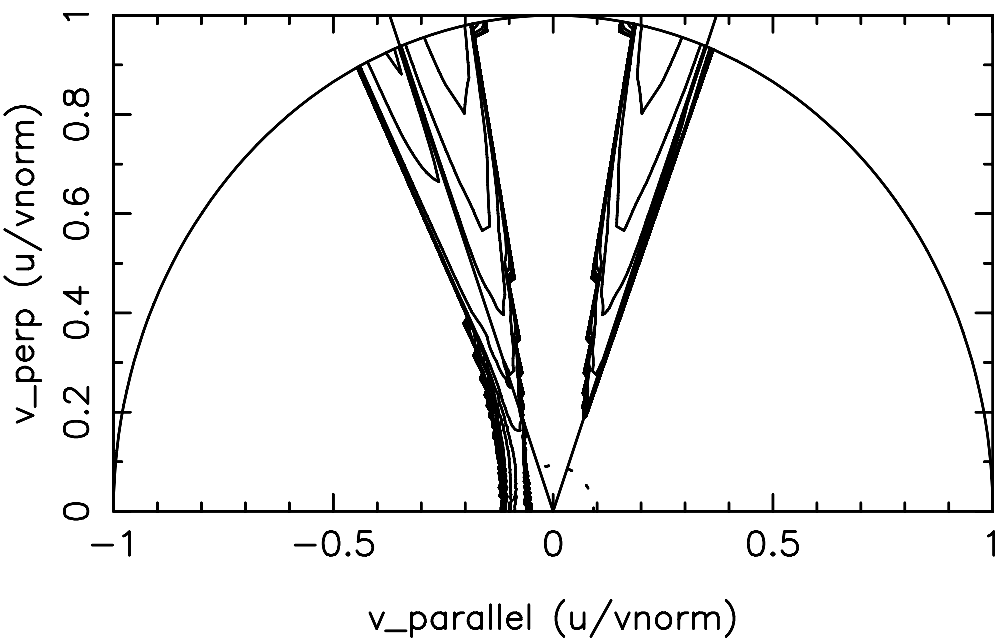
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E-01 radial position (r) = 5.10E+01 cm
rya= 2.000E-01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 8; all modes
Max value for this surface/mode: 0.132E-02
Species k=1

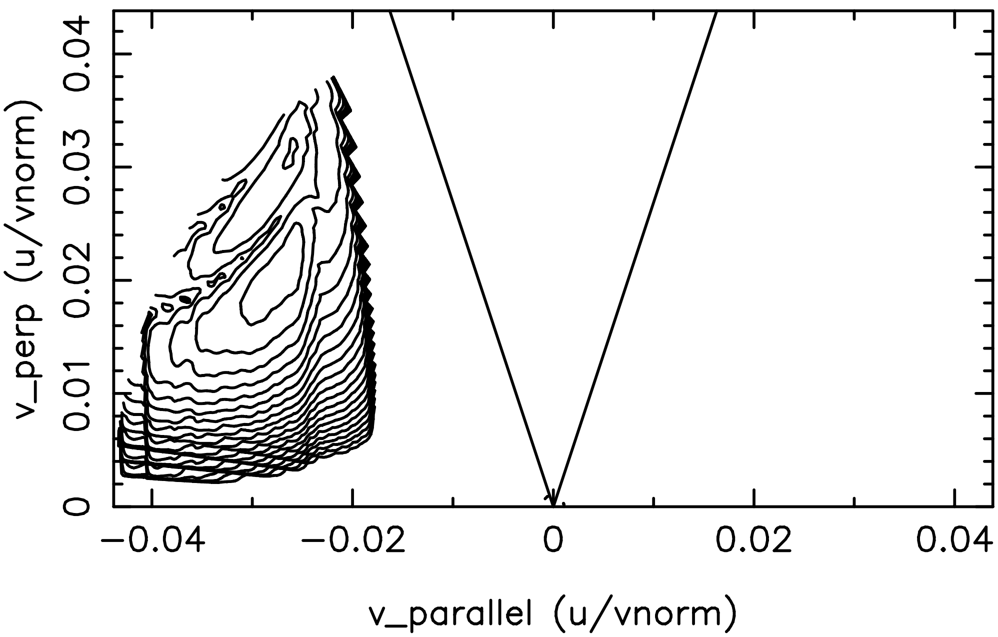
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E-01 radial position (r) = 5.10E+01 cm
rya= 2.000E-01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 8; all modes
Max value for this surface/mode: 0.741E+01
Species k=2

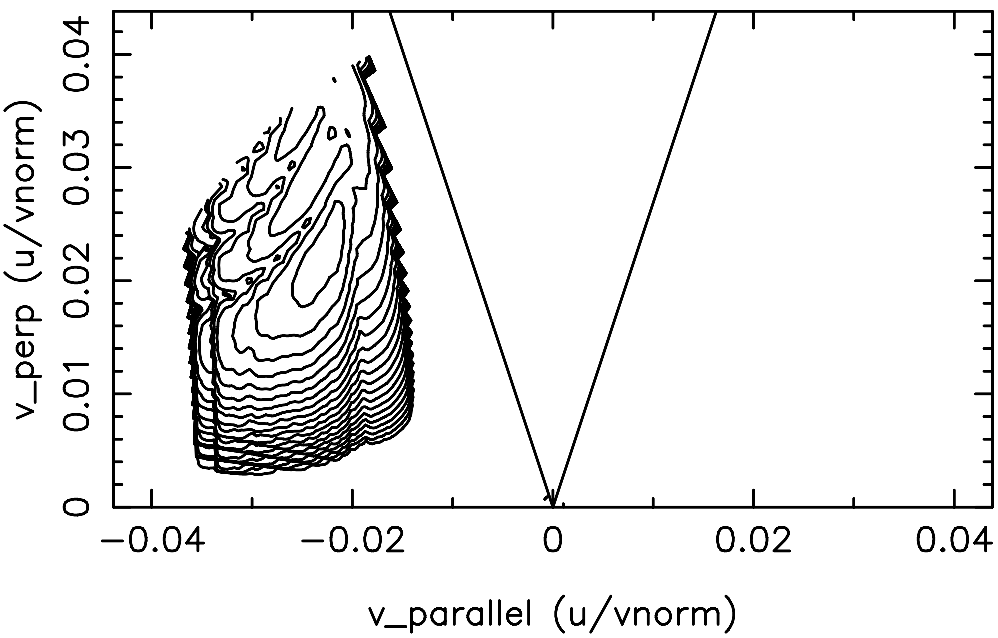
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E-01 radial position (r) = 5.10E+01 cm
rya= 2.000E-01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.198E-06

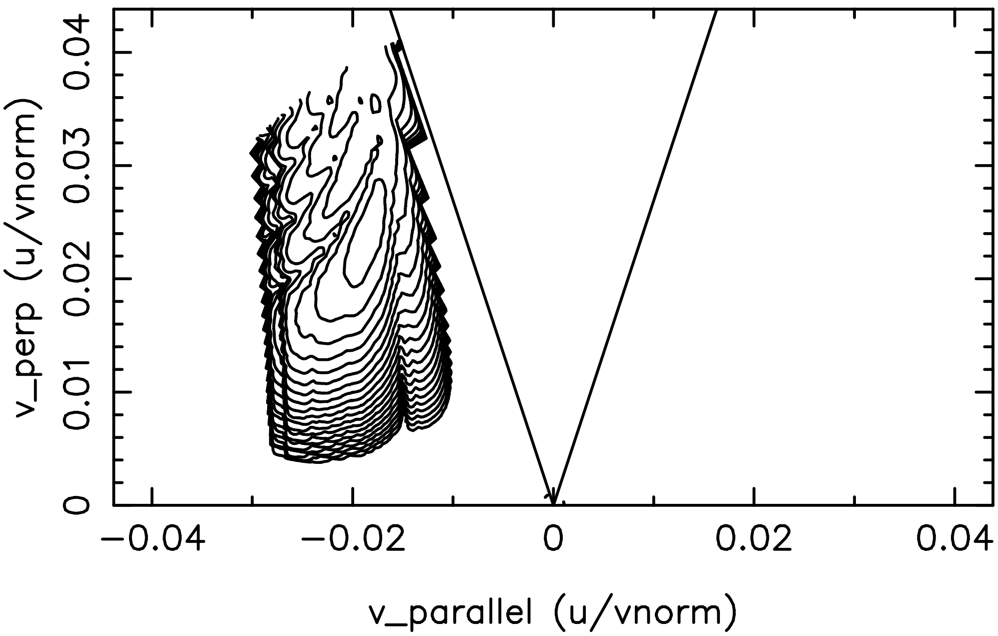
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 2 10; Species k=1
Max value for this surface/mode: 0.264E−06

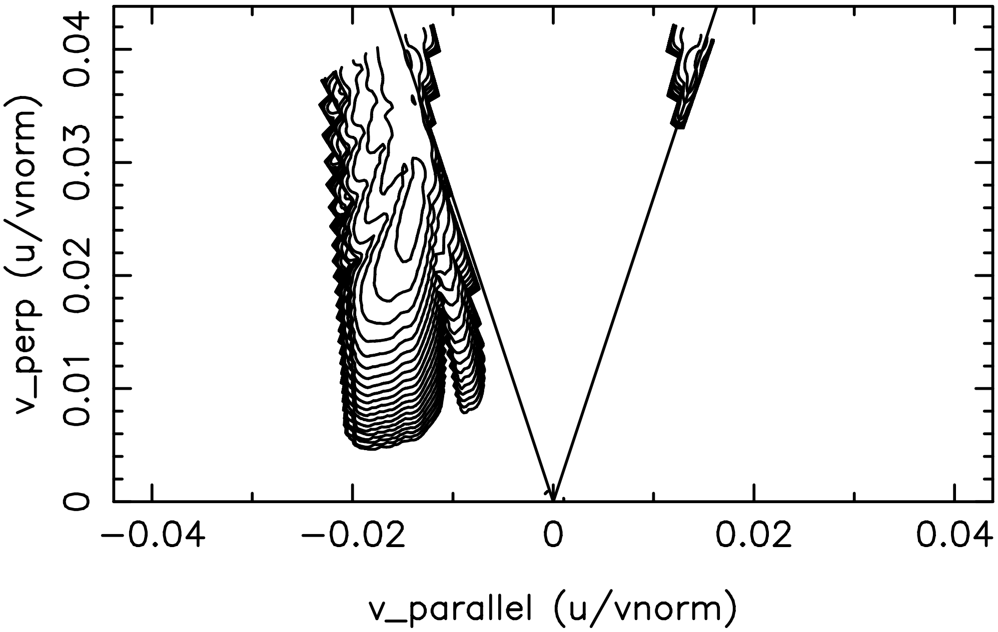
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

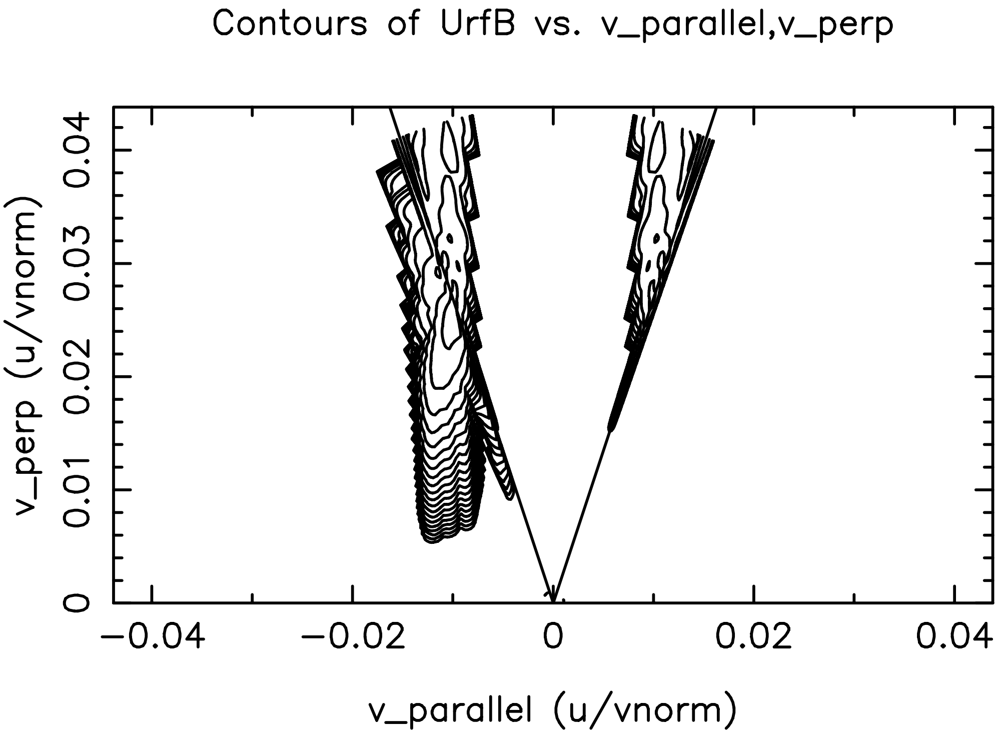
Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 3 11; Species k=1
Max value for this surface/mode: 0.349E−06

Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

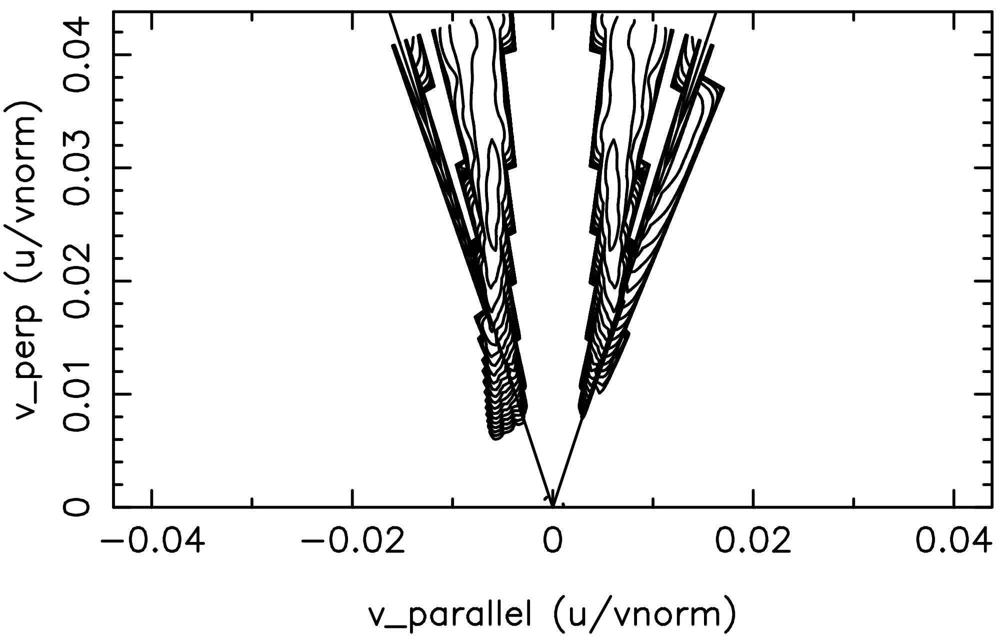
Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 4 12; Species k=1
Max value for this surface/mode: 0.517E−06



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 5 13; Species k=1
Max value for this surface/mode: 0.698E−06

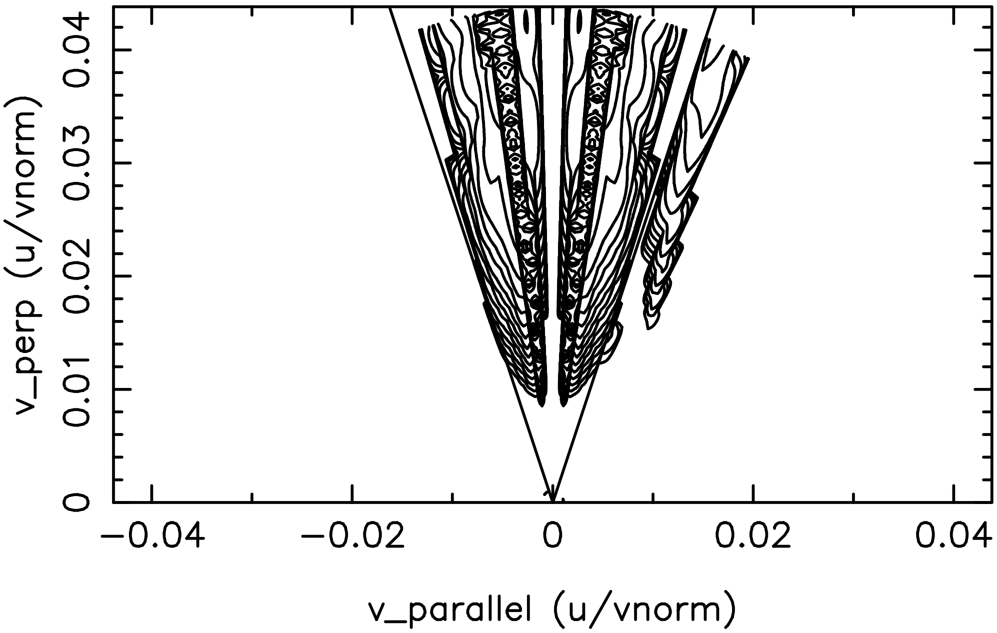
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 6 14; Species k=1
Max value for this surface/mode: 0.139E−04

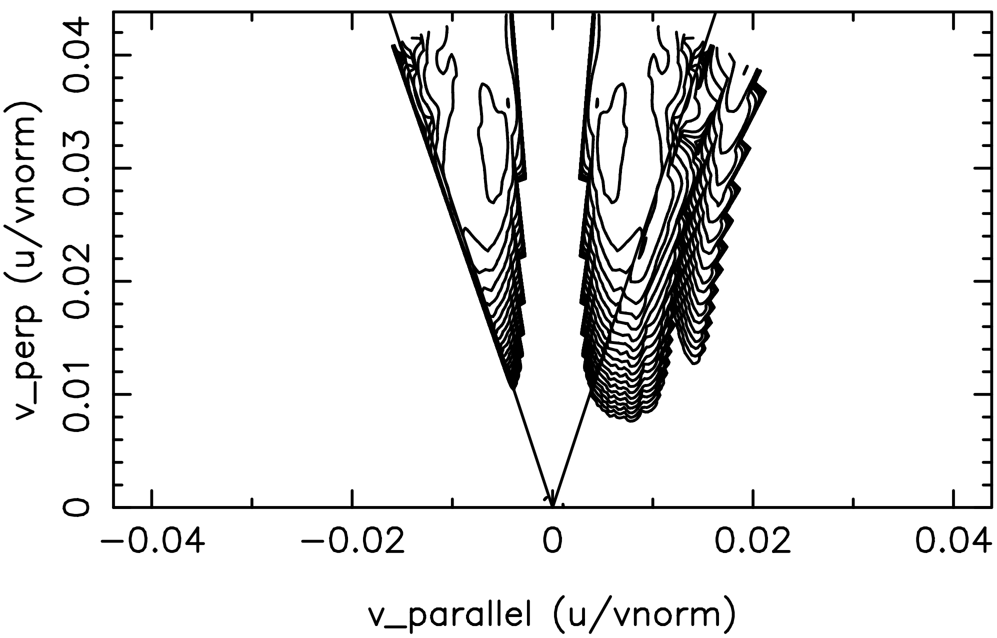
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E-01 radial position (r) = 5.10E+01 cm
rya= 2.000E-01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 7 15; Species k=1
Max value for this surface/mode: 0.132E-02

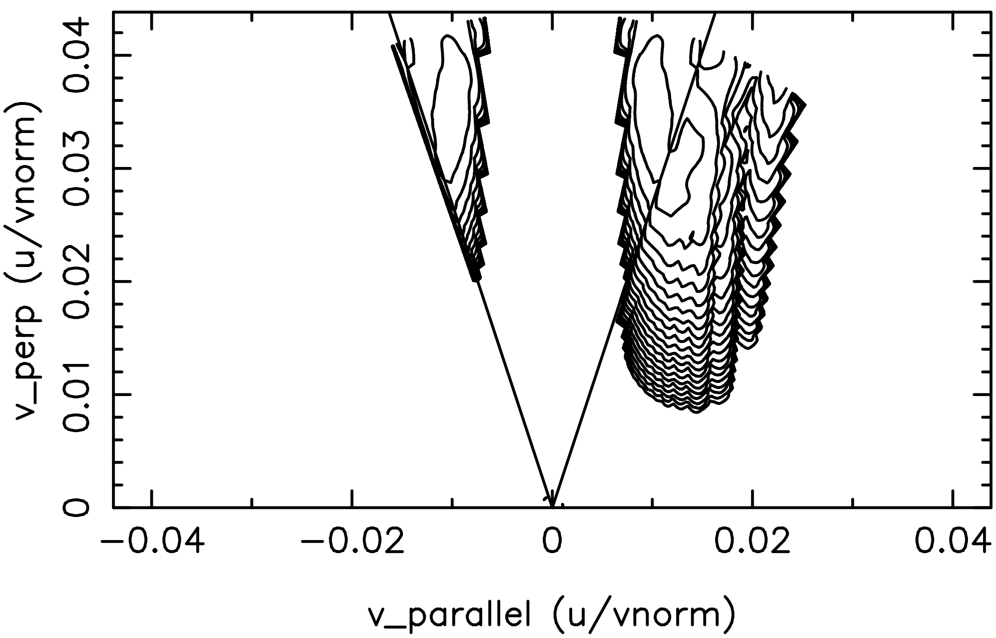
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 2.00E-01   radial position (r) = 5.10E+01 cm
rya= 2.000E-01   R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm=   8   16; Species k=1
Max value for this surface/mode: 0.254E-04

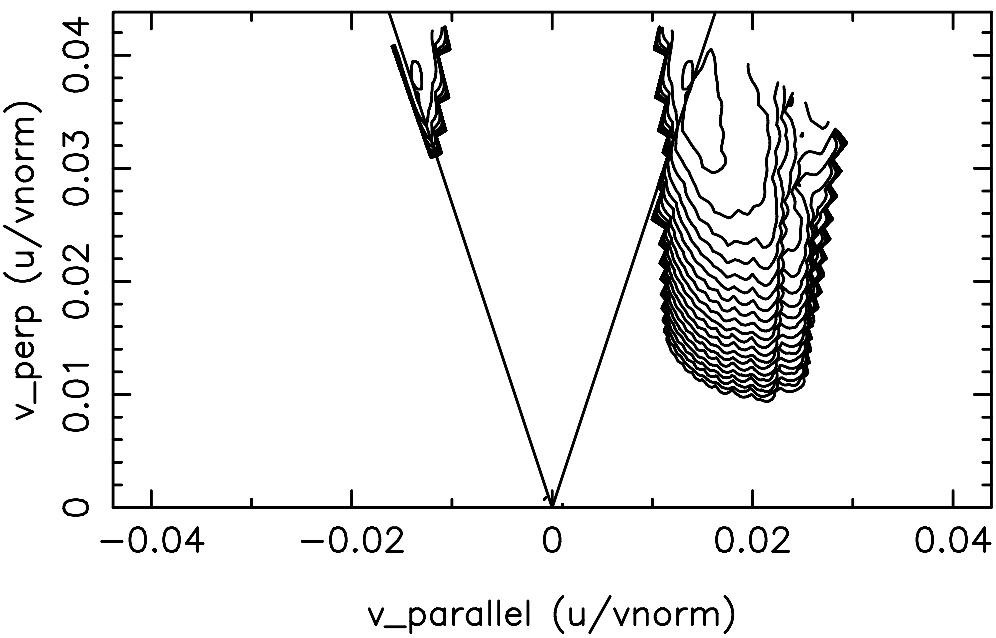
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.362E−04

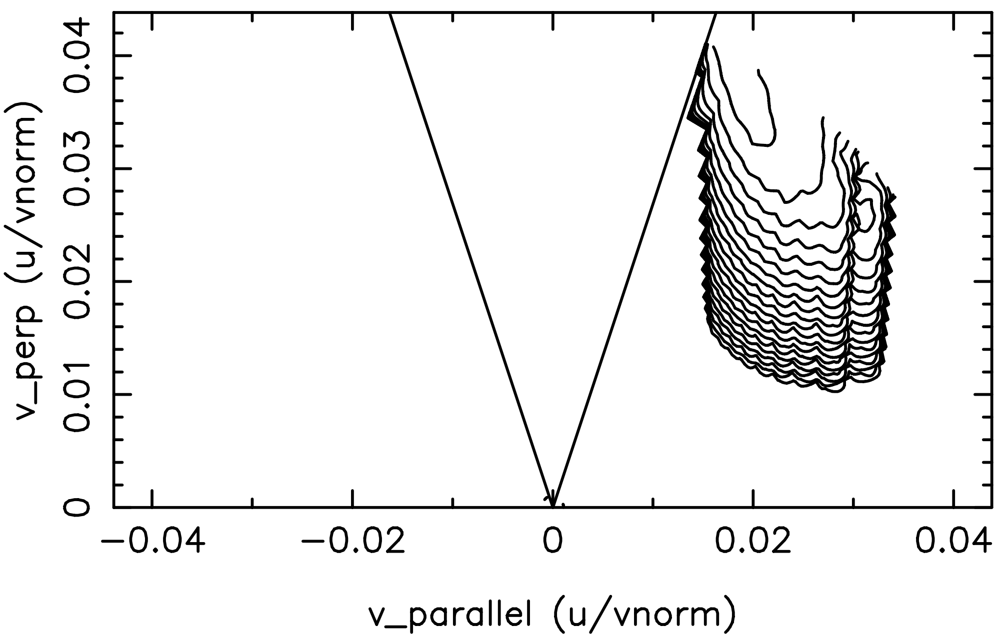
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf#   8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm=   10   18; Species k=1
Max value for this surface/mode: 0.427E−04

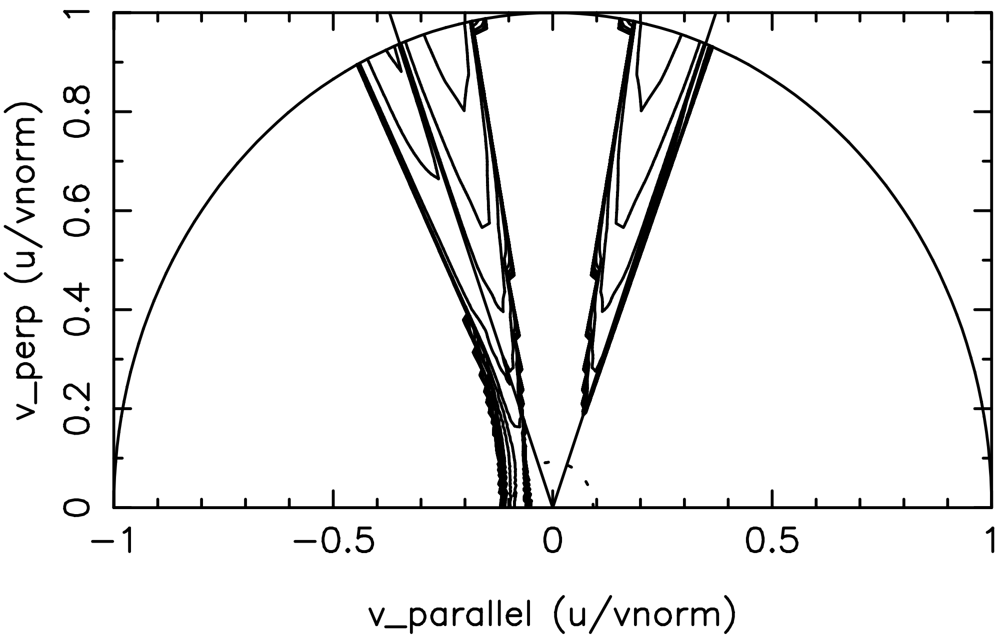
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf#   8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm=   11   19; Species k=1
Max value for this surface/mode: 0.538E−04

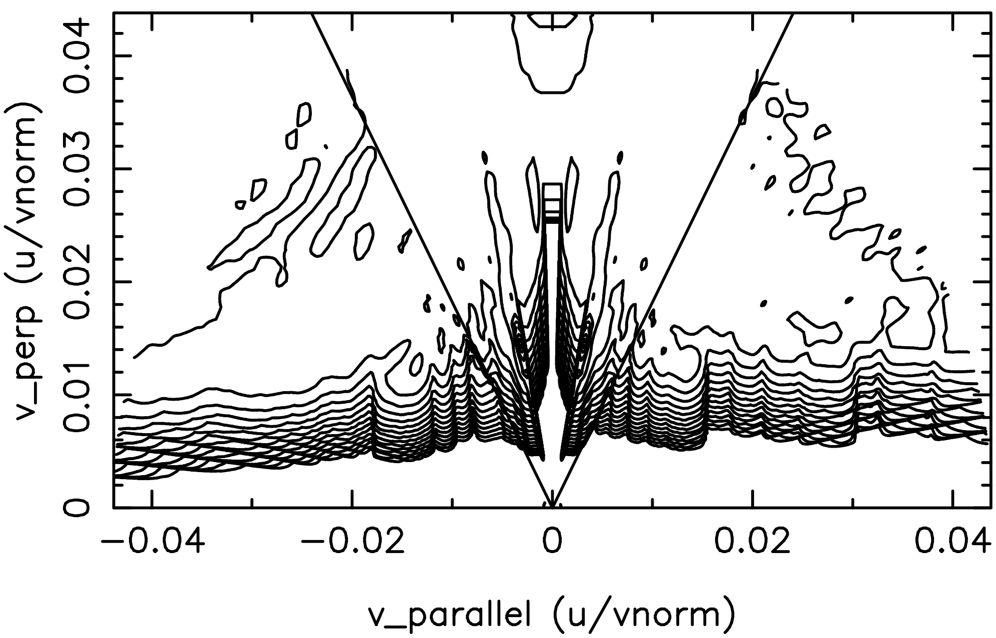
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 8; mode,nharm= 12 0; Species k=2
Max value for this surface/mode: 0.741E+01

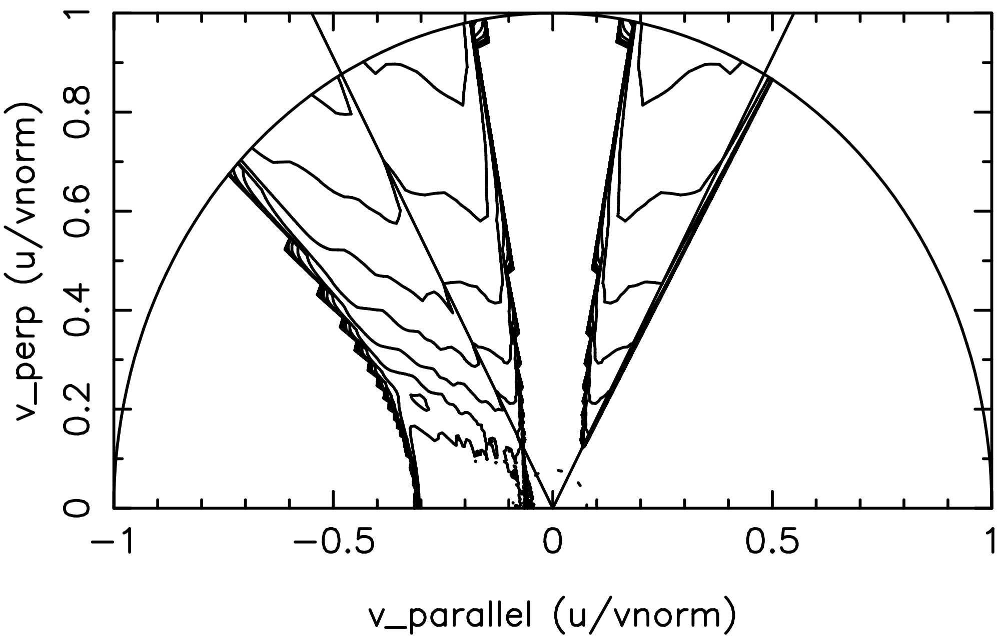
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 16; all modes
Max value for this surface/mode: 0.298E−02
Species k=1

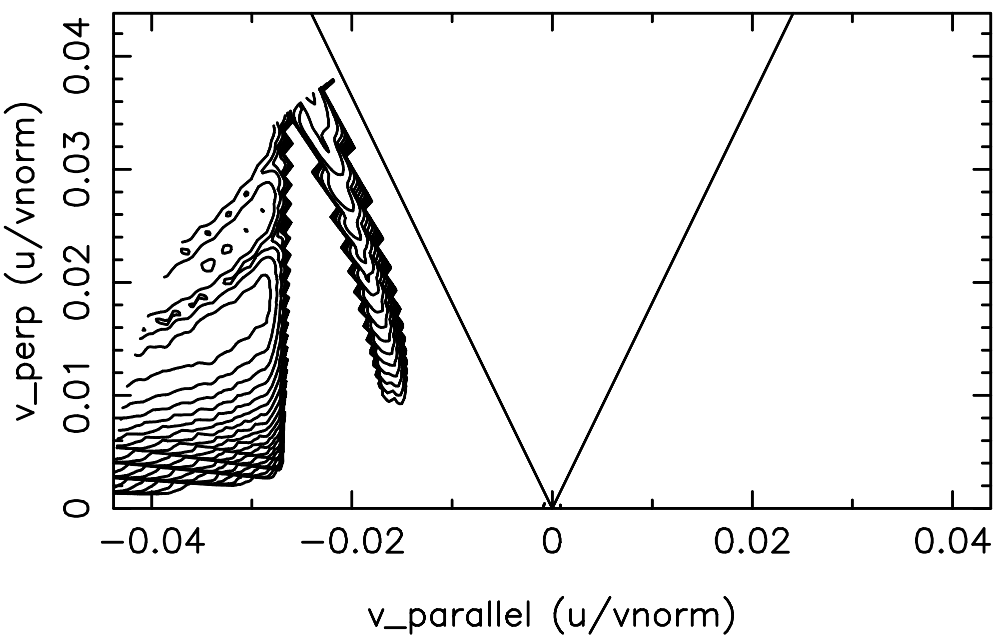
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E-01 radial position (r) = 1.02E+02 cm
rya= 4.000E-01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 16; all modes
Max value for this surface/mode: 0.229E+02
Species k=2

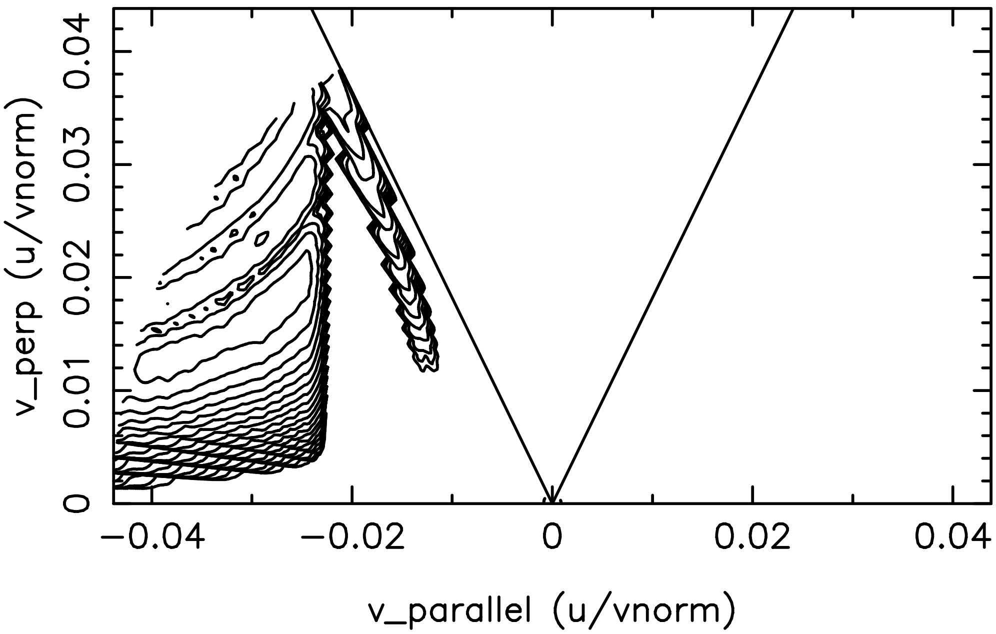
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.264E−06

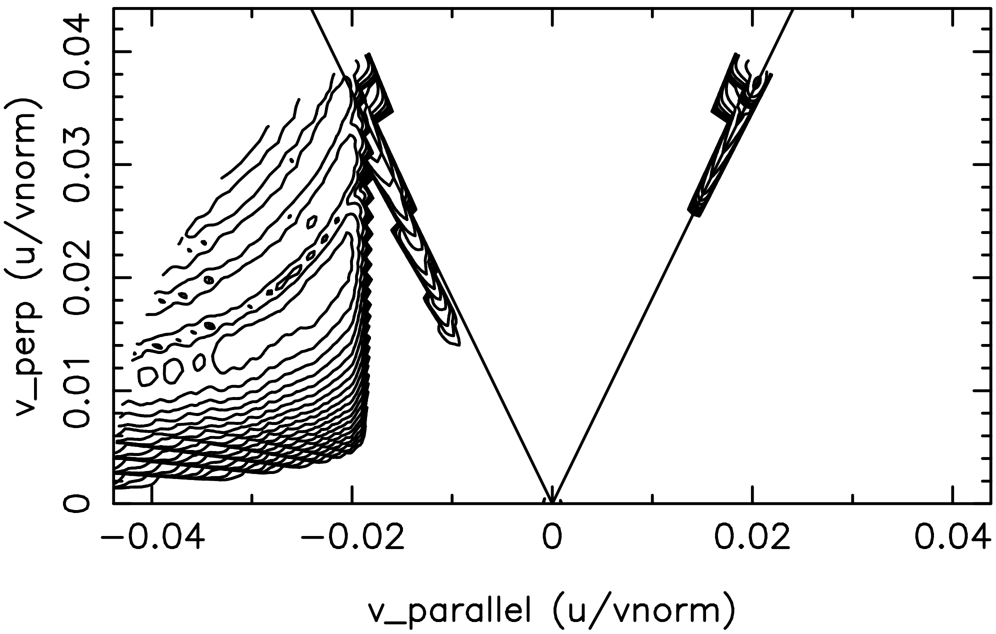
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E-01 radial position (r) = 1.02E+02 cm
rya= 4.000E-01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 2 10; Species k=1
Max value for this surface/mode: 0.369E-06

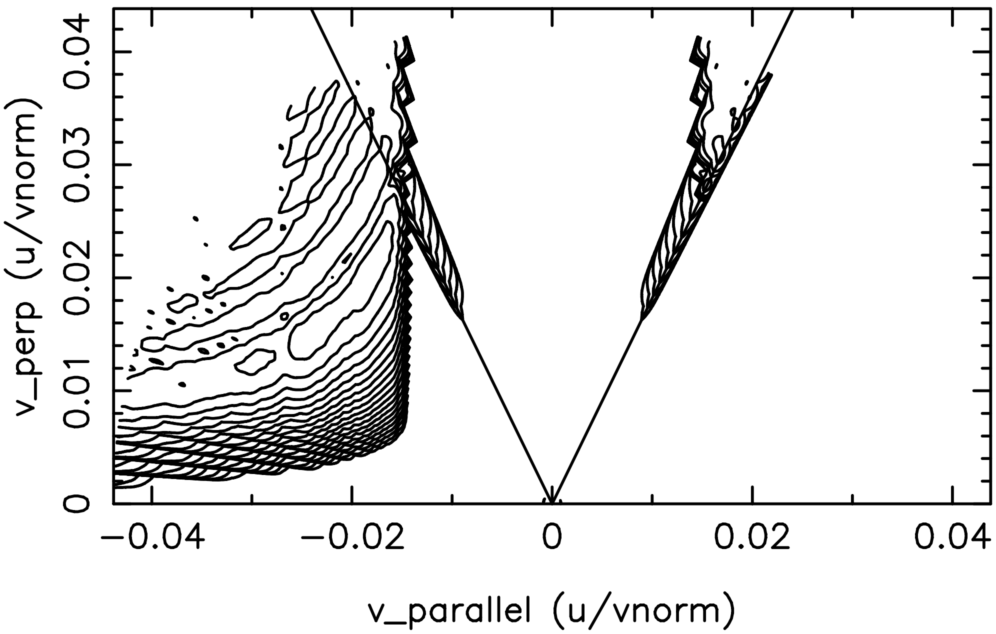
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 4.00E-01   radial position (r) = 1.02E+02 cm
rya= 4.000E-01   R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm=   3   11; Species k=1
Max value for this surface/mode: 0.510E-06

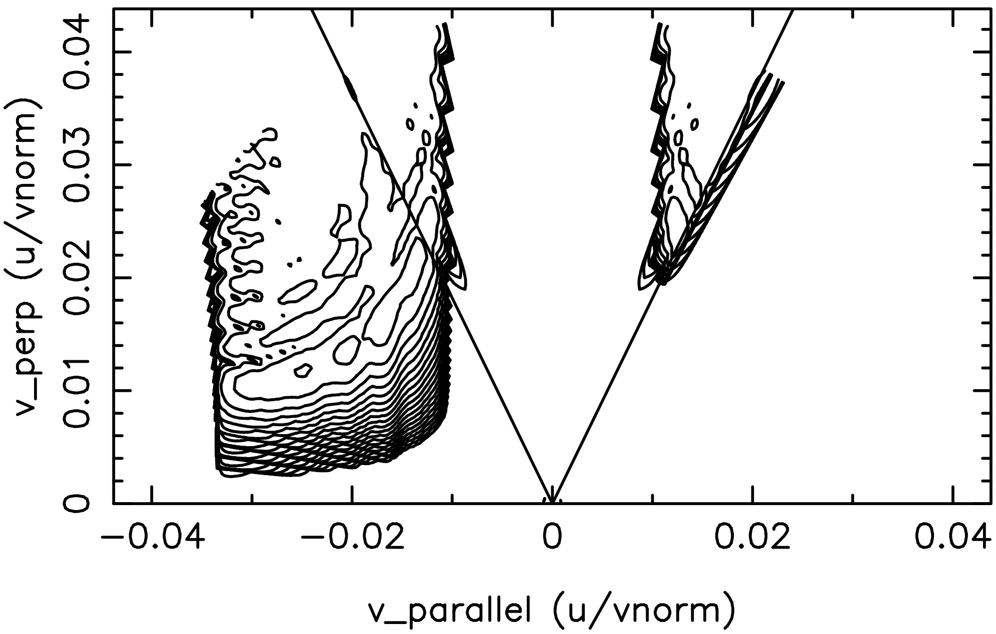
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 4 12; Species k=1
Max value for this surface/mode: 0.786E−06

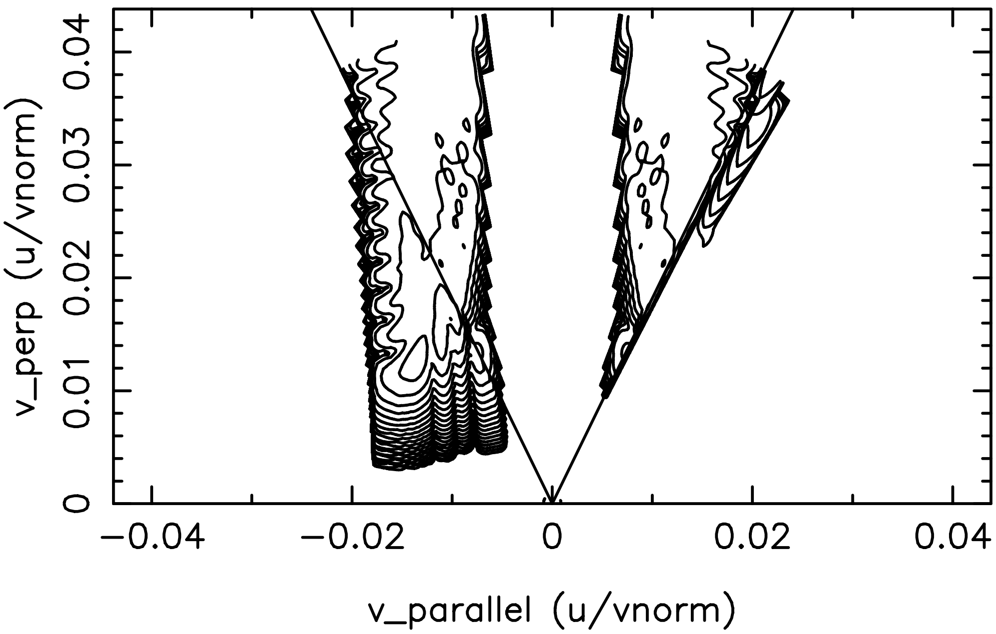
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 5 13; Species k=1
Max value for this surface/mode: 0.504E−05

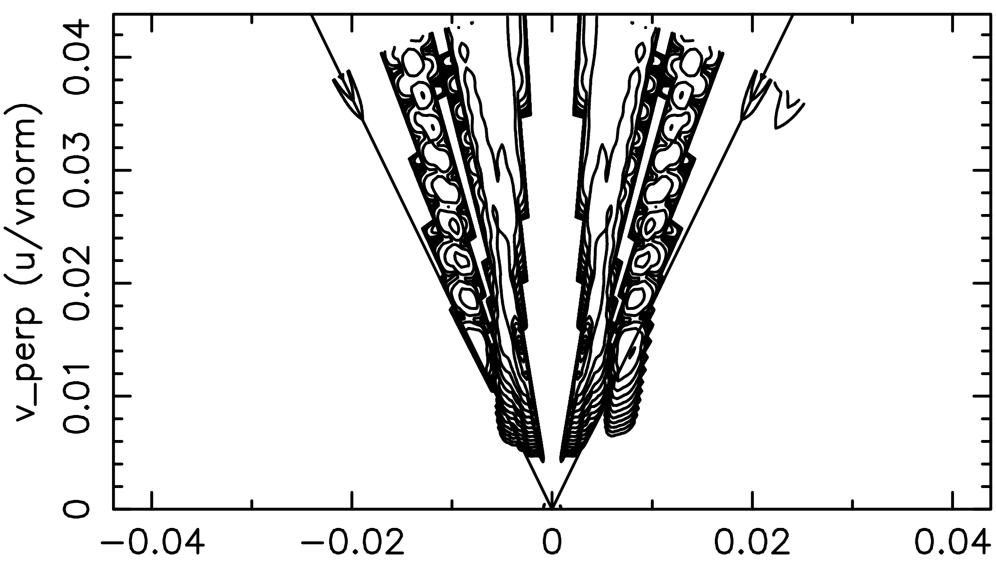
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 6 14; Species k=1
Max value for this surface/mode: 0.101E−04

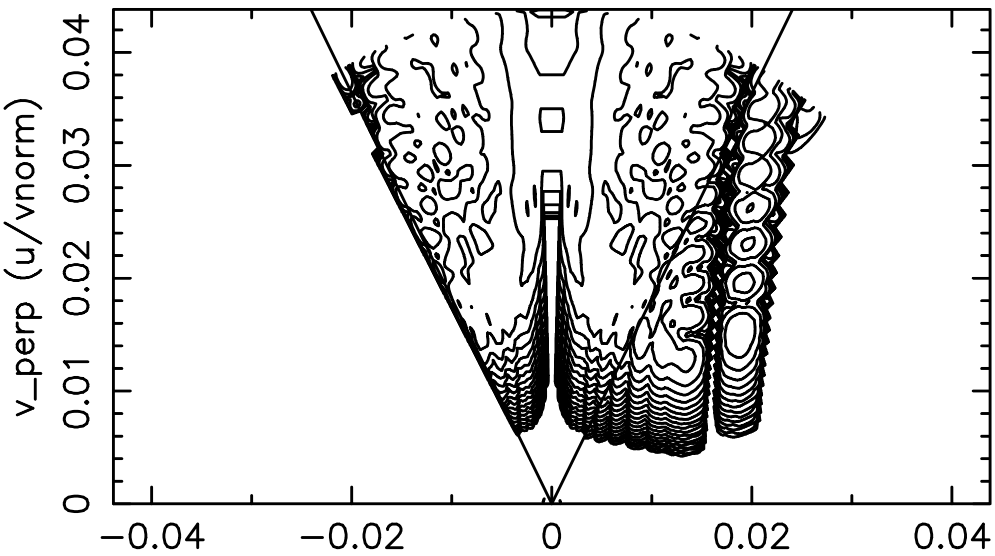
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 7 15; Species k=1
Max value for this surface/mode: 0.298E−02

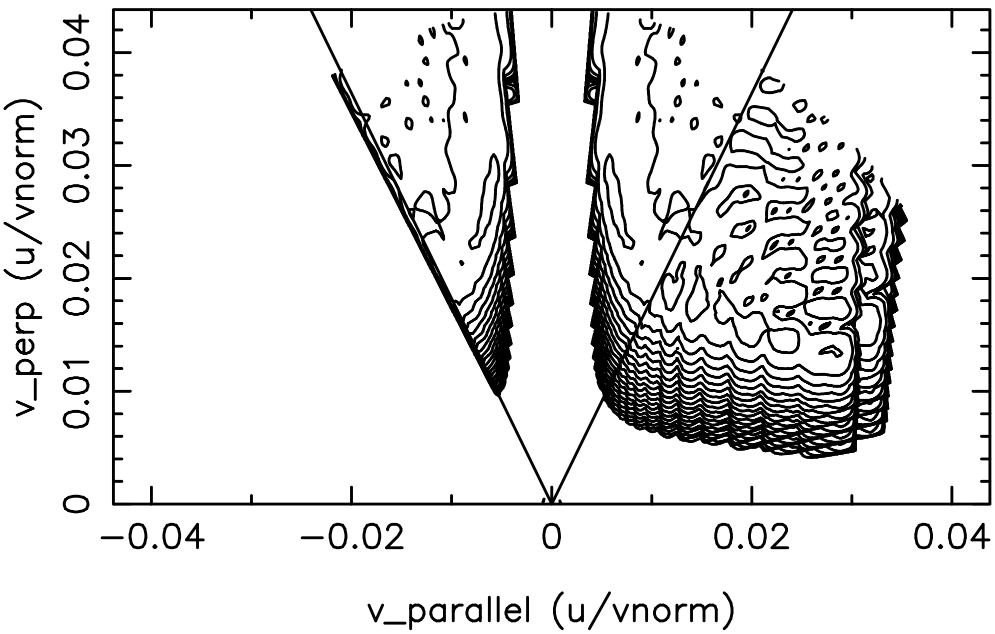
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 8 16; Species k=1
Max value for this surface/mode: 0.236E−04

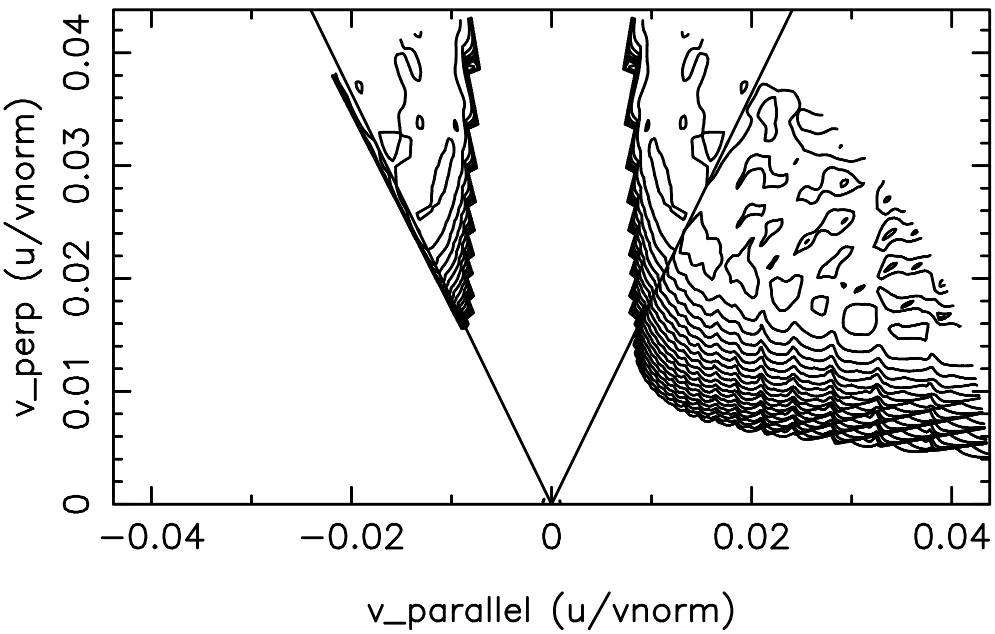
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E-01 radial position (r) = 1.02E+02 cm
rya= 4.000E-01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.262E-04

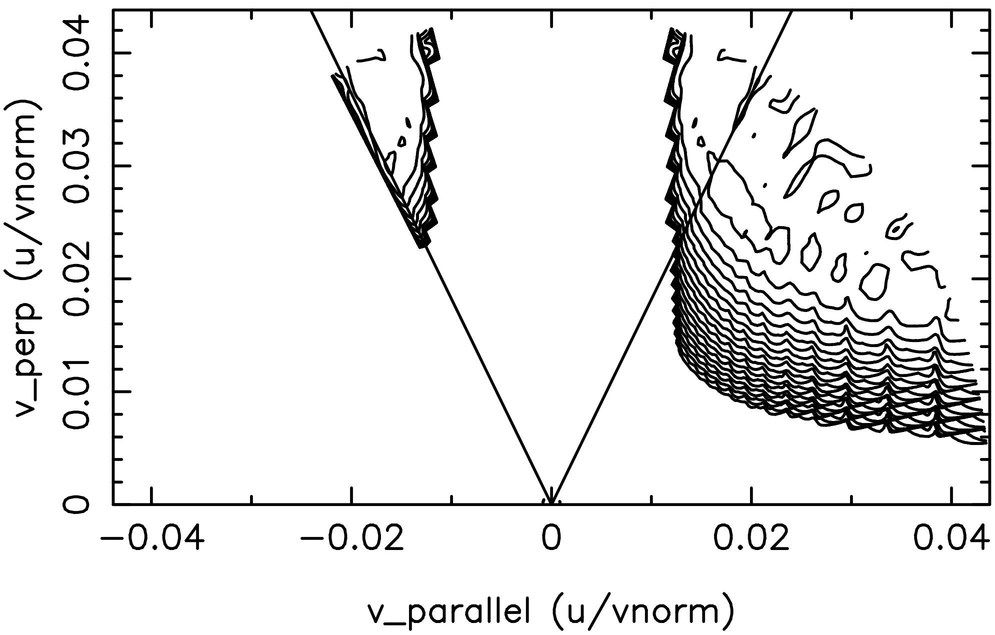
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 10 18; Species k=1
Max value for this surface/mode: 0.475E−04

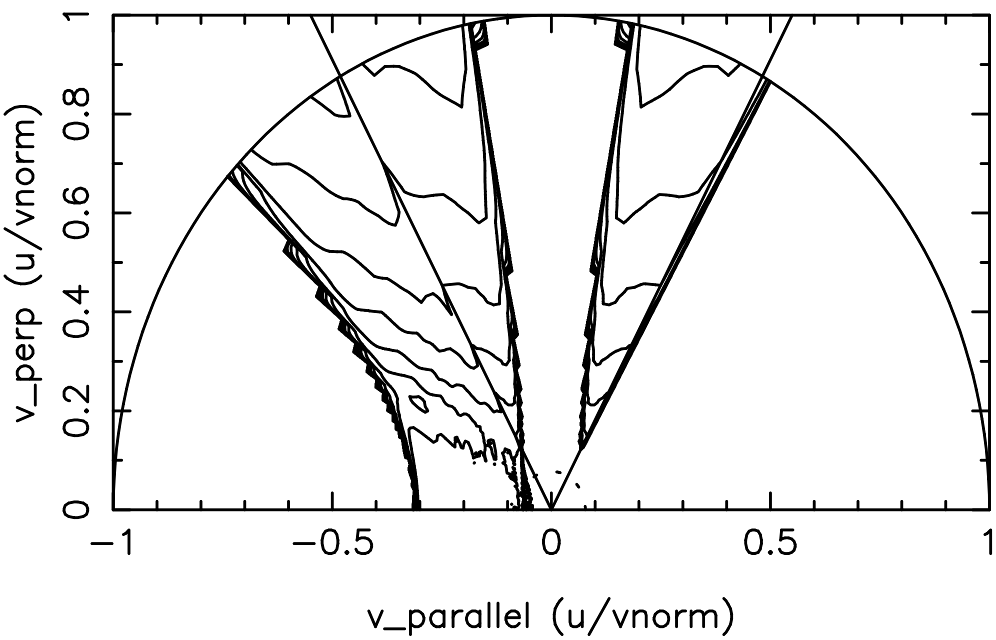
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 11 19; Species k=1
Max value for this surface/mode: 0.605E−04

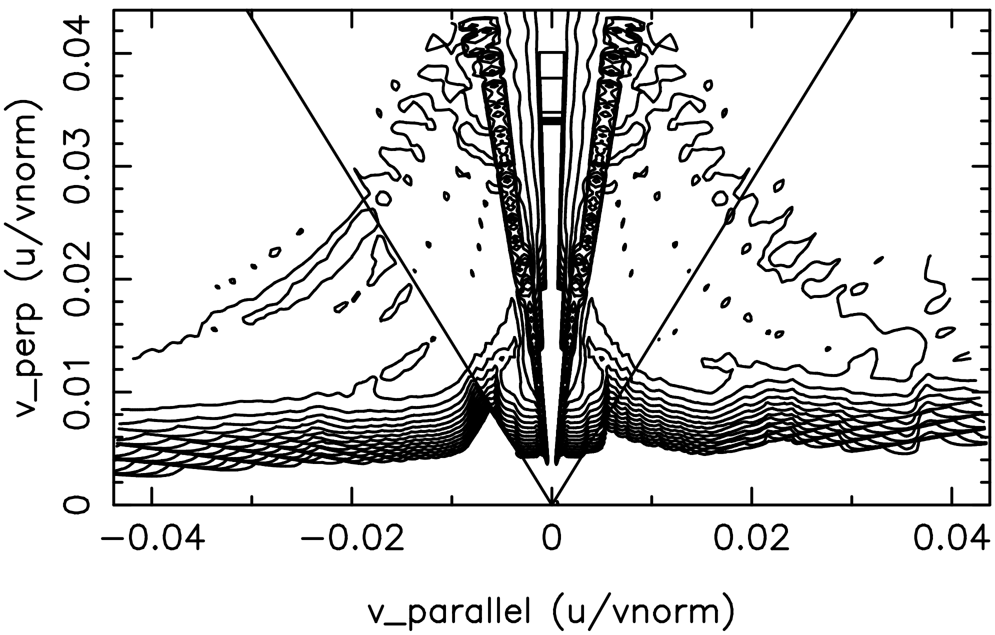
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 16; mode,nharm= 12 0; Species k=2
Max value for this surface/mode: 0.229E+02

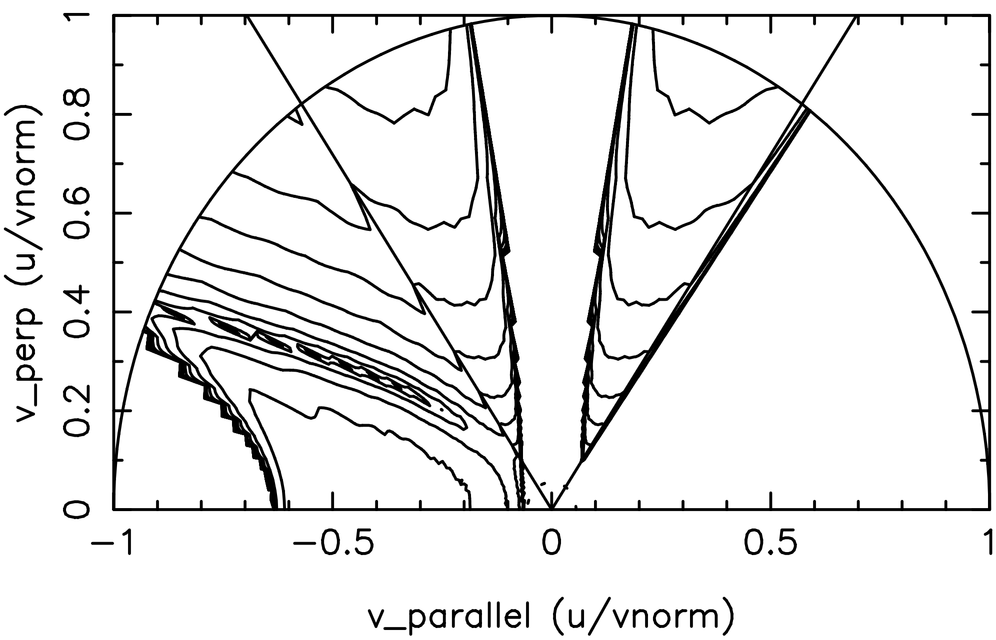
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 6.00E−01   radial position (r) = 1.53E+02 cm
rya= 6.000E−01   R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 24; all modes
Max value for this surface/mode: 0.327E−01
Species k=1

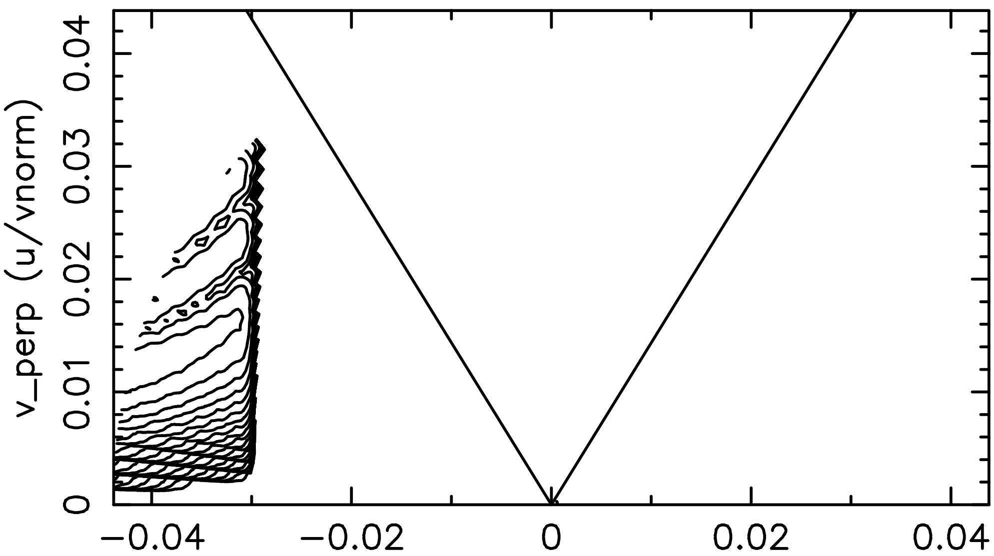
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 24; all modes
Max value for this surface/mode: 0.198E+03
Species k=2

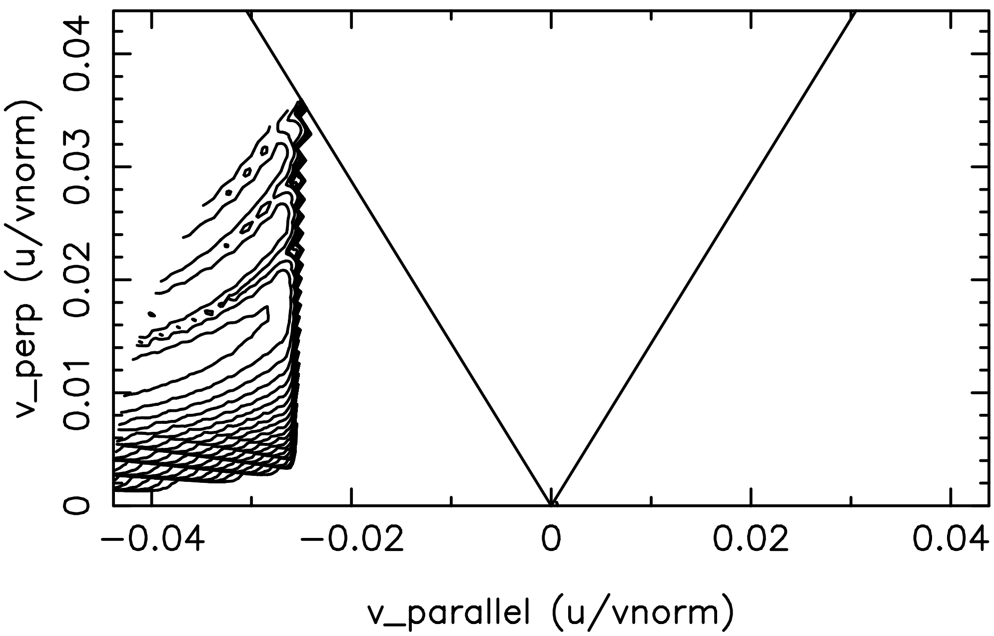
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.138E−05

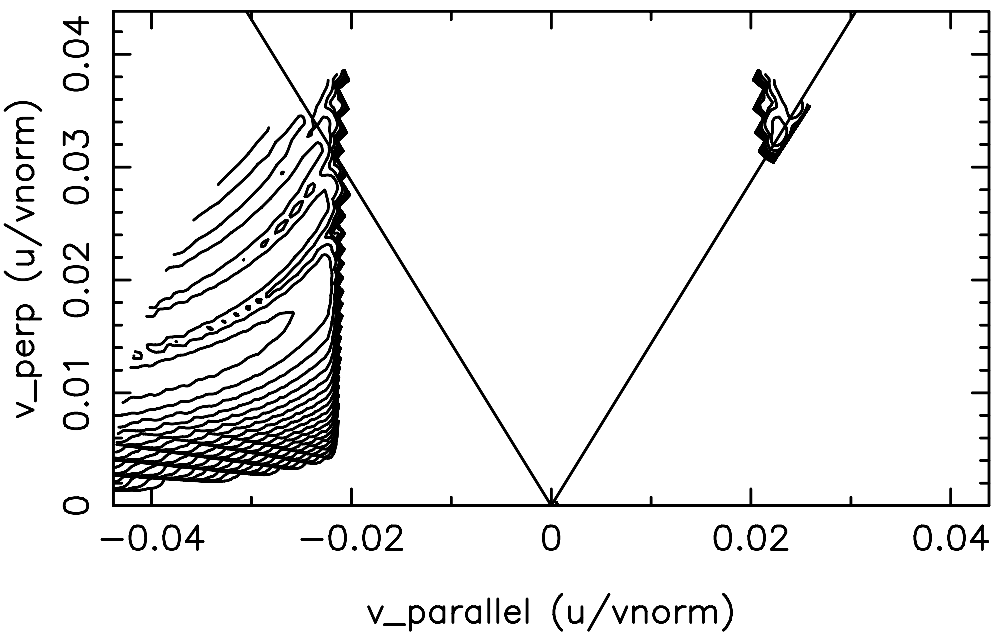
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 2 10; Species k=1
Max value for this surface/mode: 0.192E−05

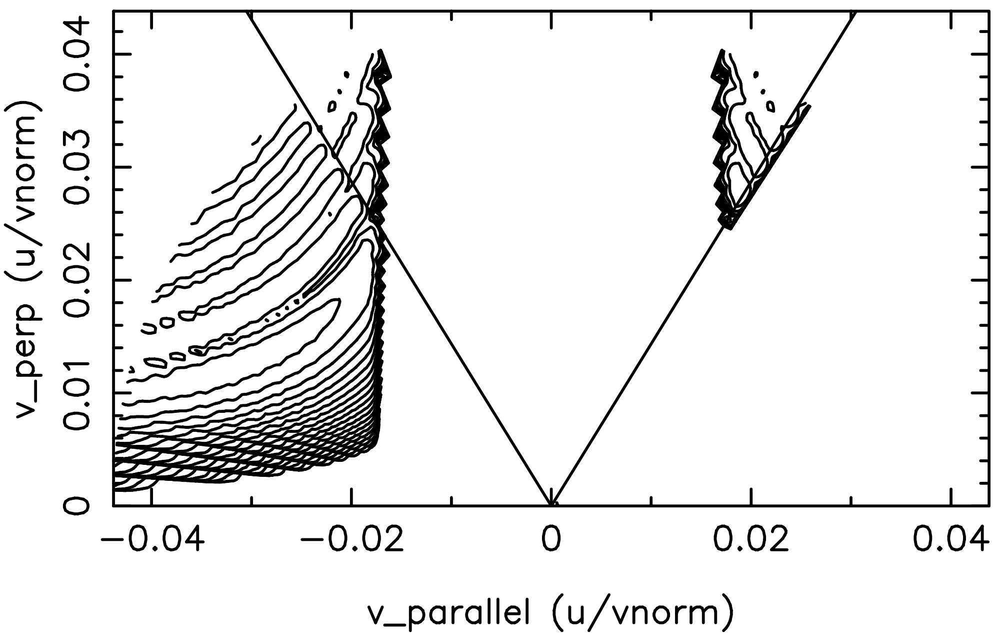
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 3 11; Species k=1
Max value for this surface/mode: 0.296E−05

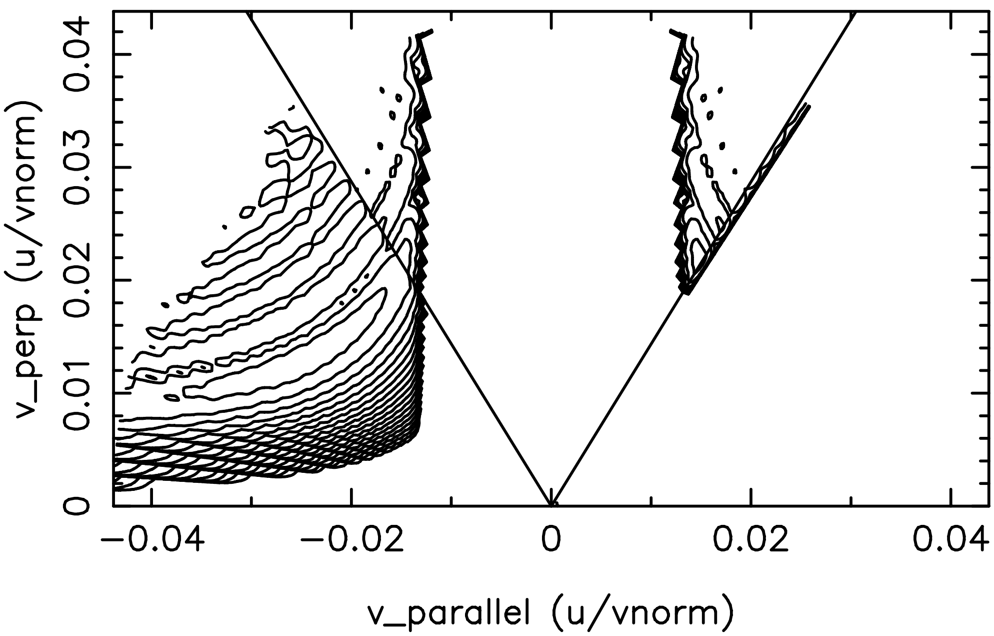
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 4 12; Species k=1
Max value for this surface/mode: 0.420E−05

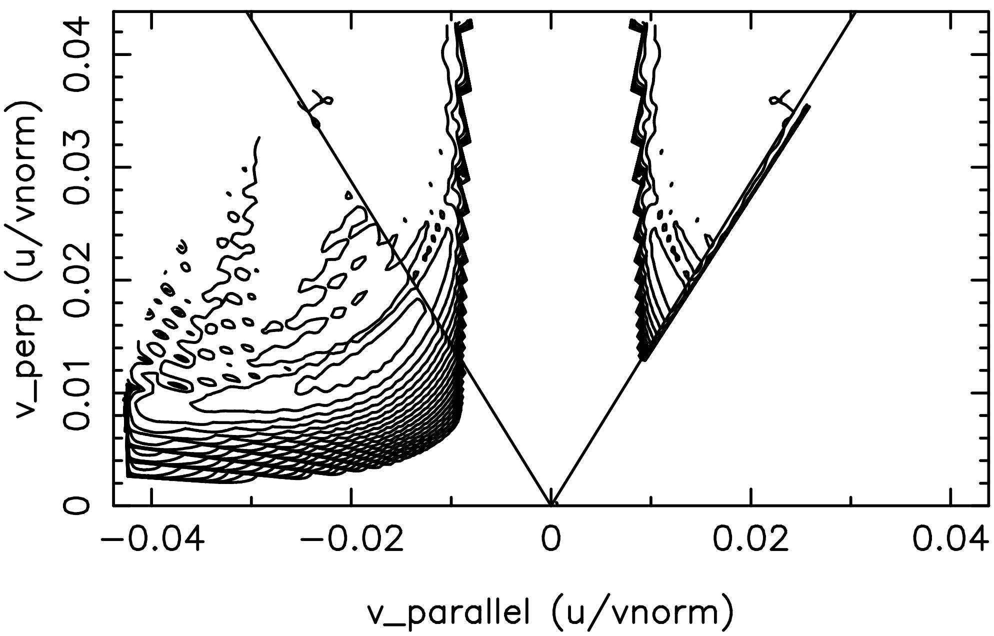
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 6.00E−01   radial position (r) = 1.53E+02 cm
rya= 6.000E−01   R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 5 13; Species k=1
Max value for this surface/mode: 0.638E−05

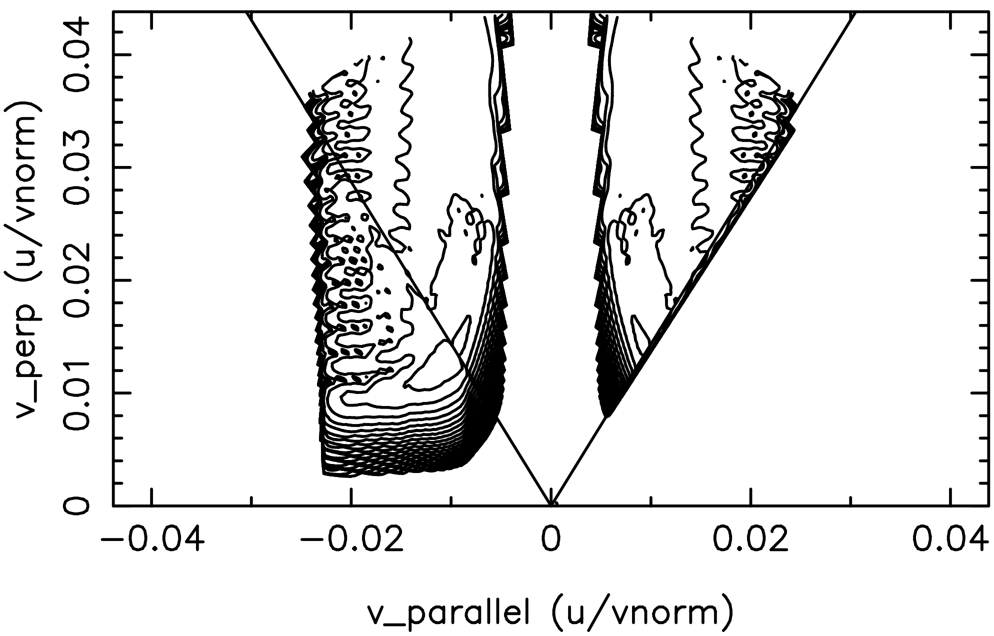
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 6 14; Species k=1
Max value for this surface/mode: 0.106E−04

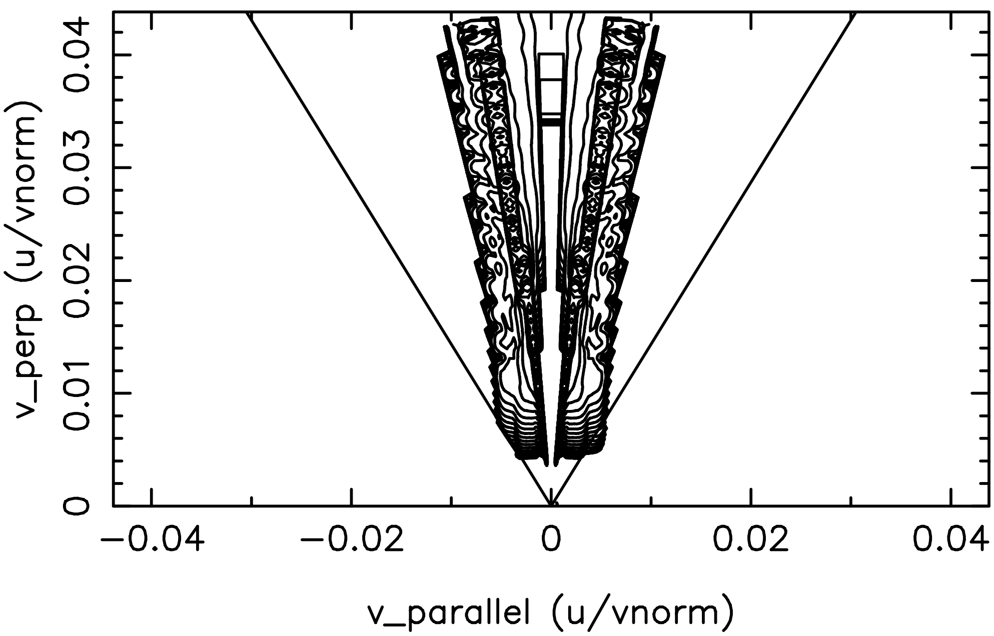
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 7 15; Species k=1
Max value for this surface/mode: 0.154E−04

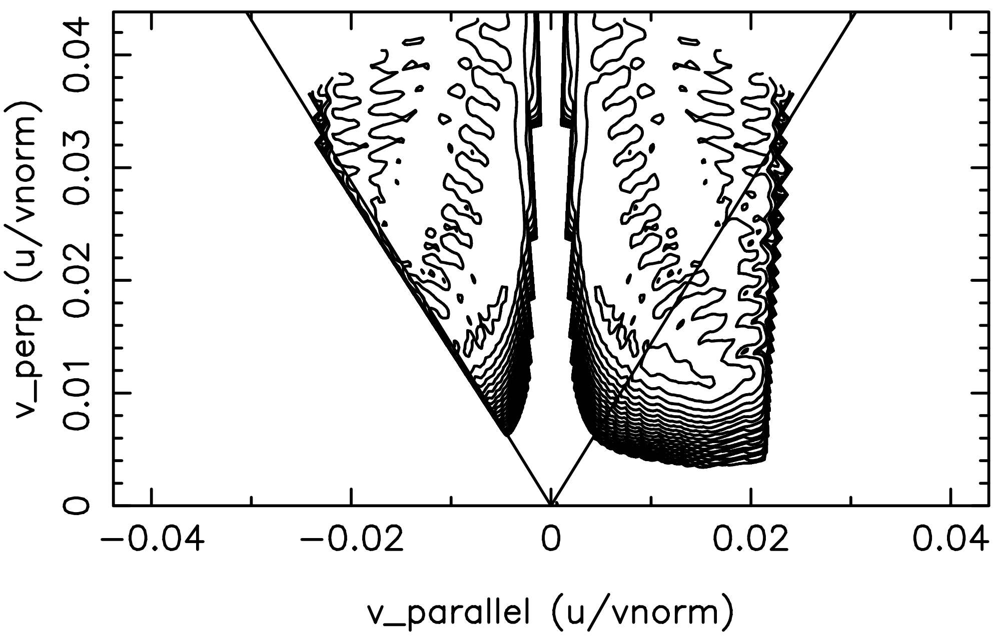
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 8 16; Species k=1
Max value for this surface/mode: 0.327E−01

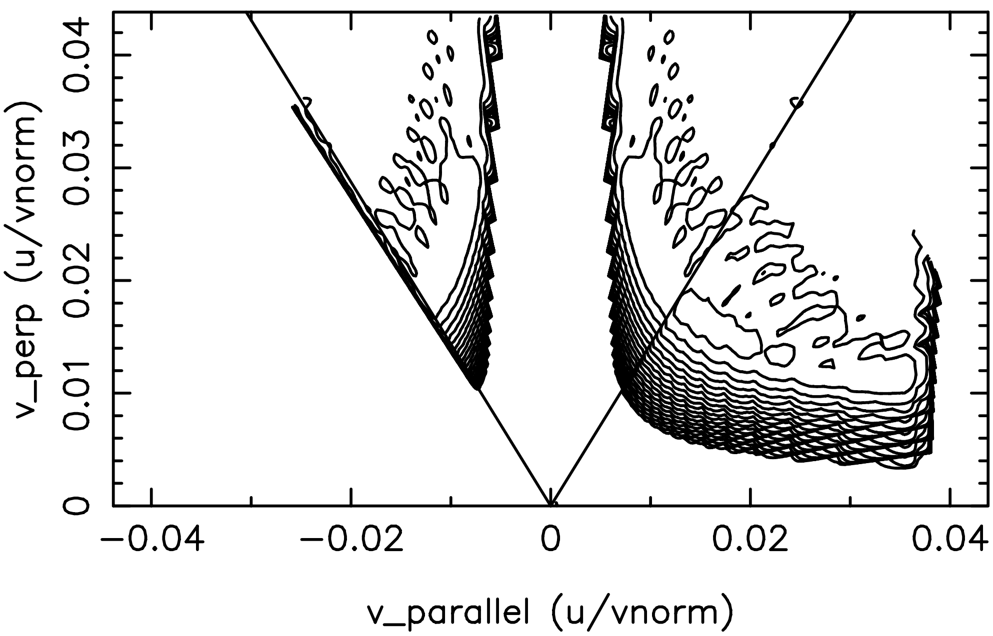
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 6.00E-01   radial position (r) = 1.53E+02 cm
rya= 6.000E-01   R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.616E-04

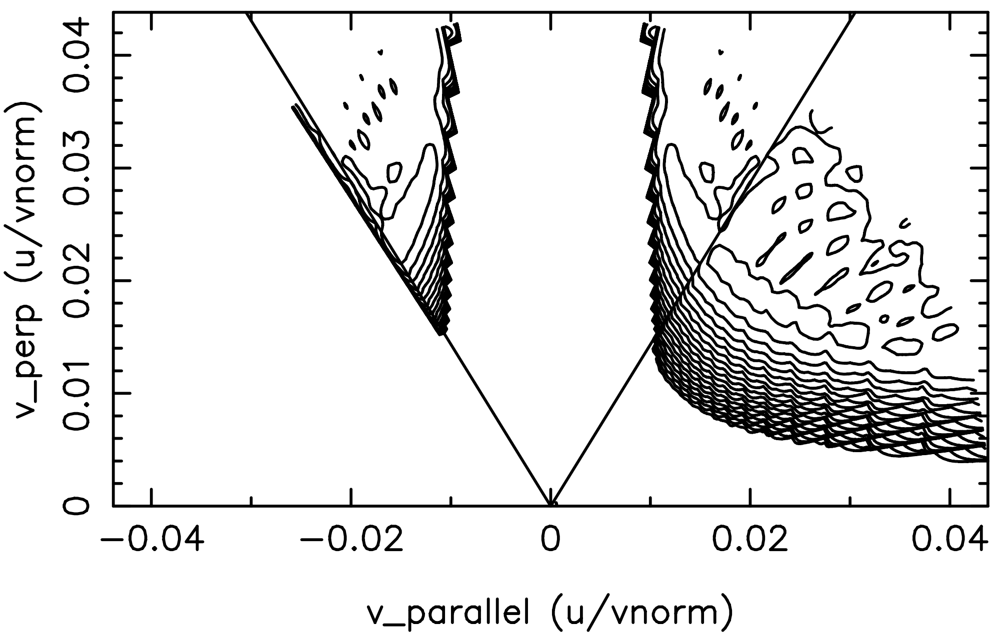
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 10 18; Species k=1
Max value for this surface/mode: 0.105E−03

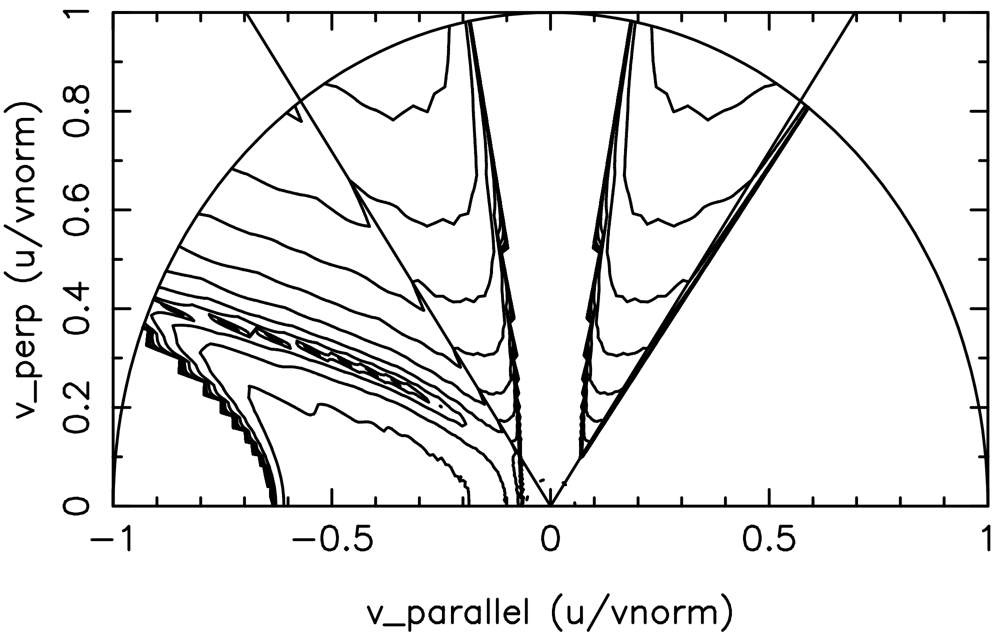
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 11 19; Species k=1
Max value for this surface/mode: 0.180E−03

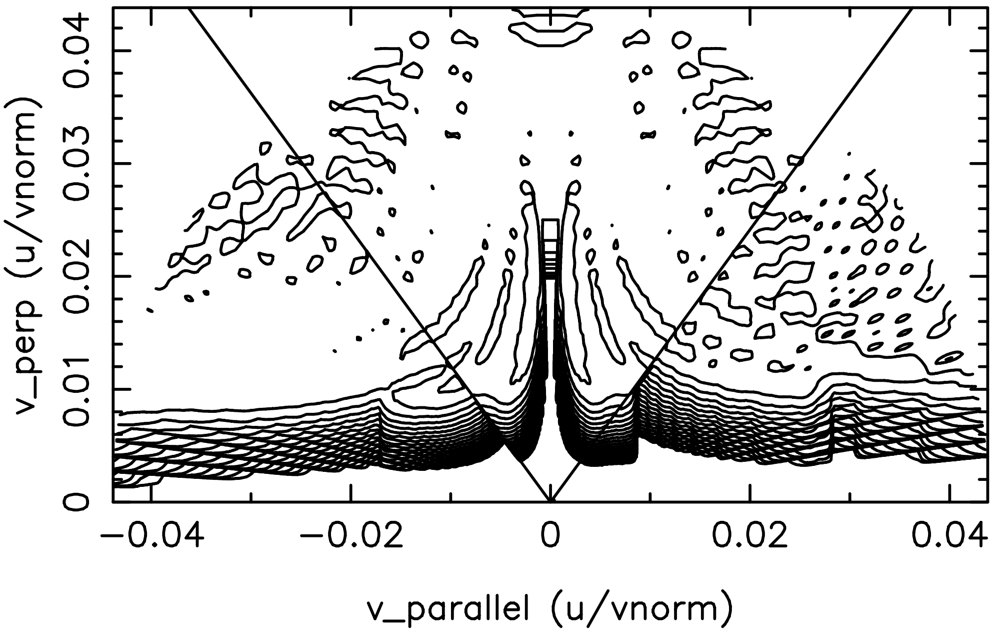
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 24; mode,nharm= 12 0; Species k=2
Max value for this surface/mode: 0.198E+03

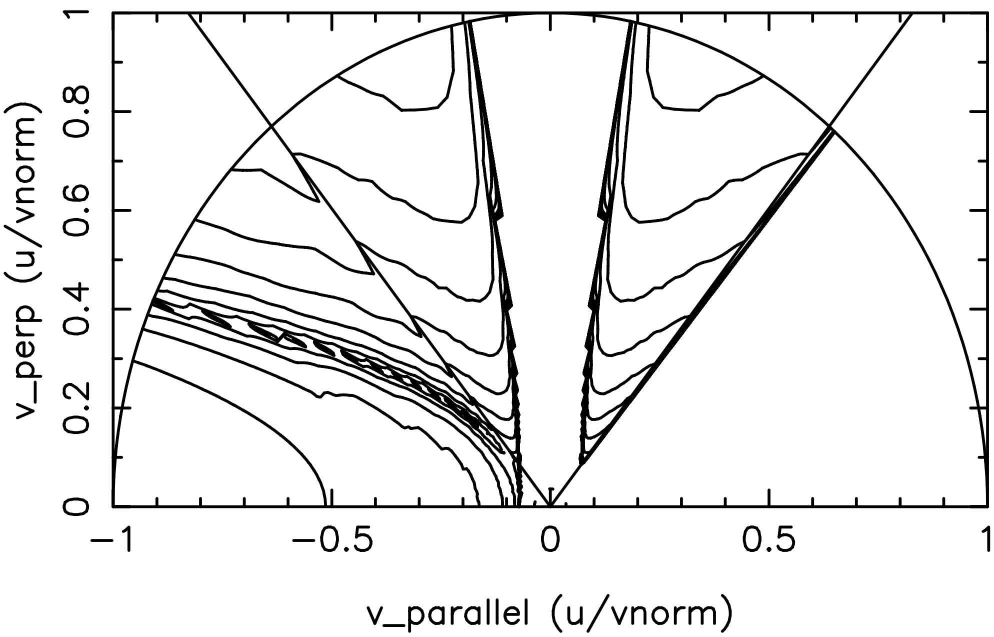
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 32; all modes
Max value for this surface/mode: 0.246E−03
Species k=1

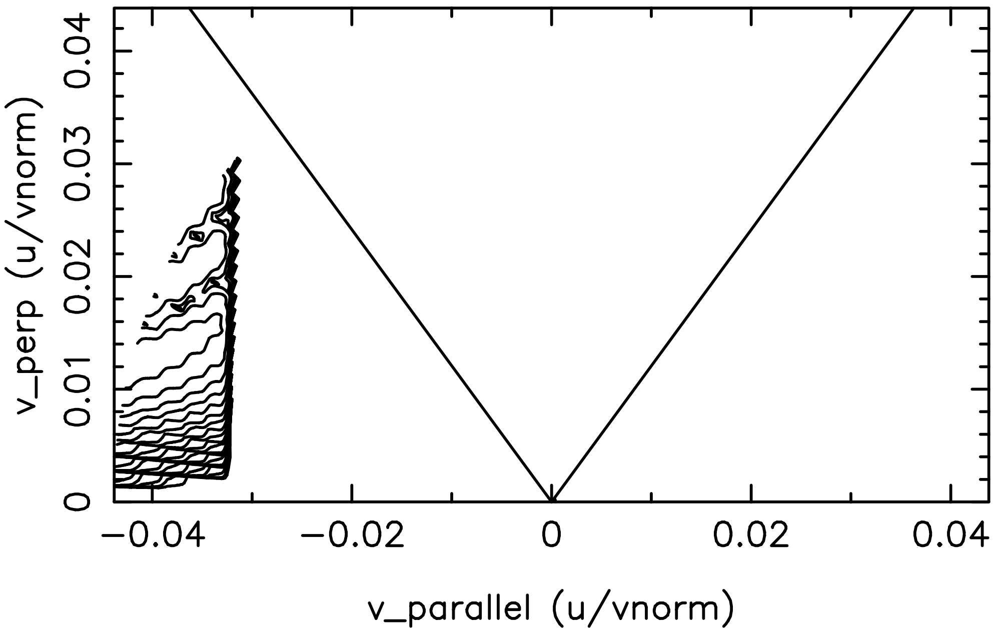
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surface number 32; all modes
Max value for this surface/mode: 0.259E+03
Species k=2

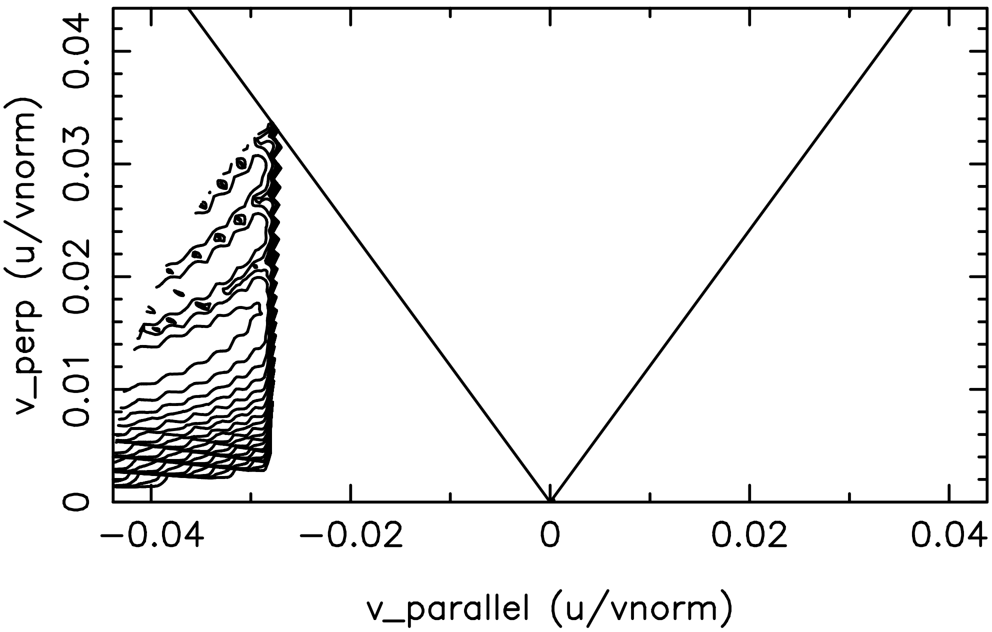
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 1 9; Species k=1
Max value for this surface/mode: 0.149E−05

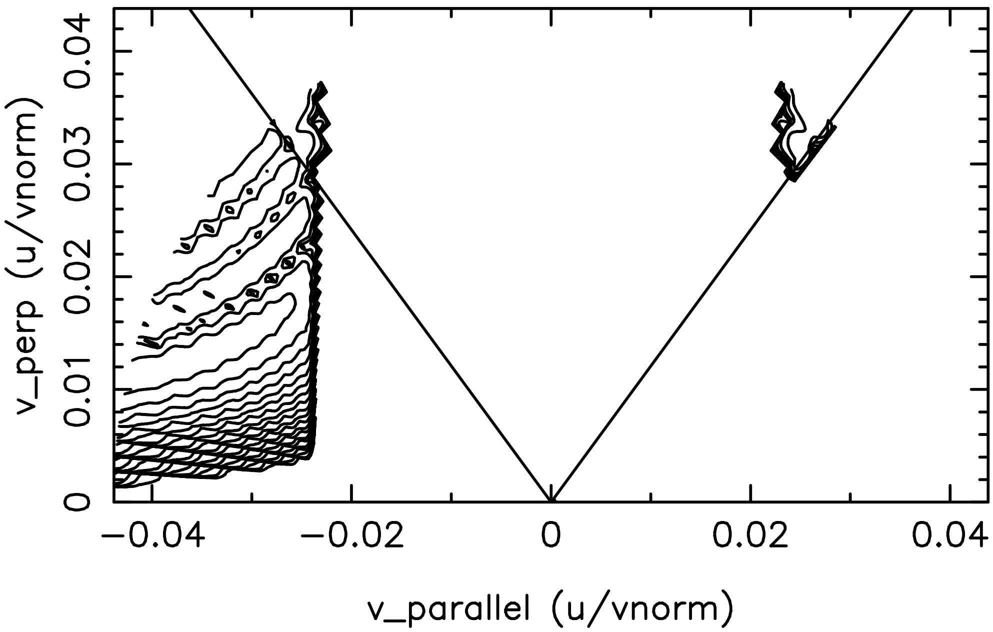
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 2 10; Species k=1
Max value for this surface/mode: 0.198E−05

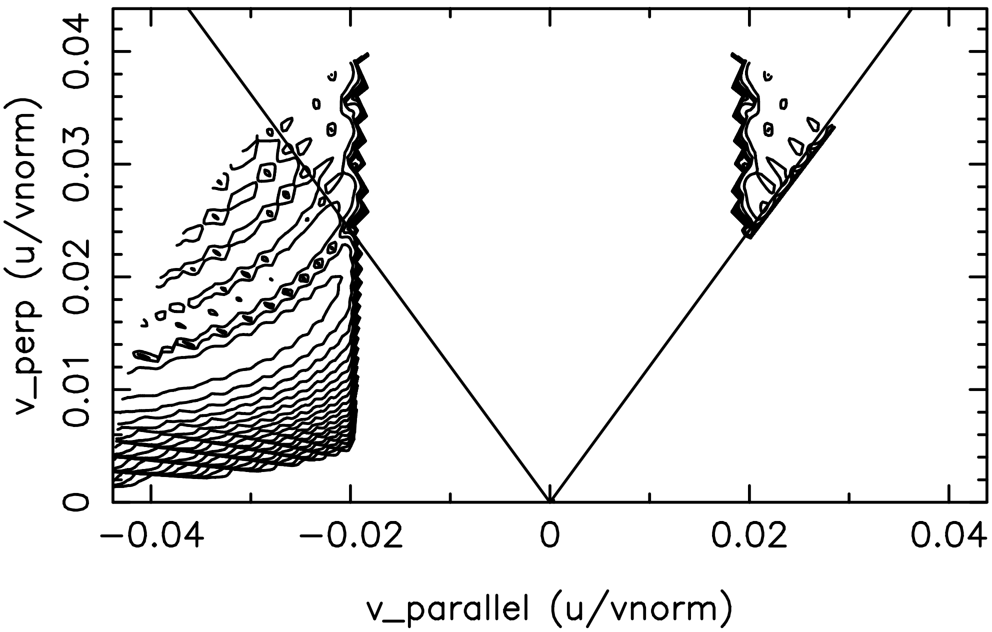
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 3 11; Species k=1
Max value for this surface/mode: 0.287E−05

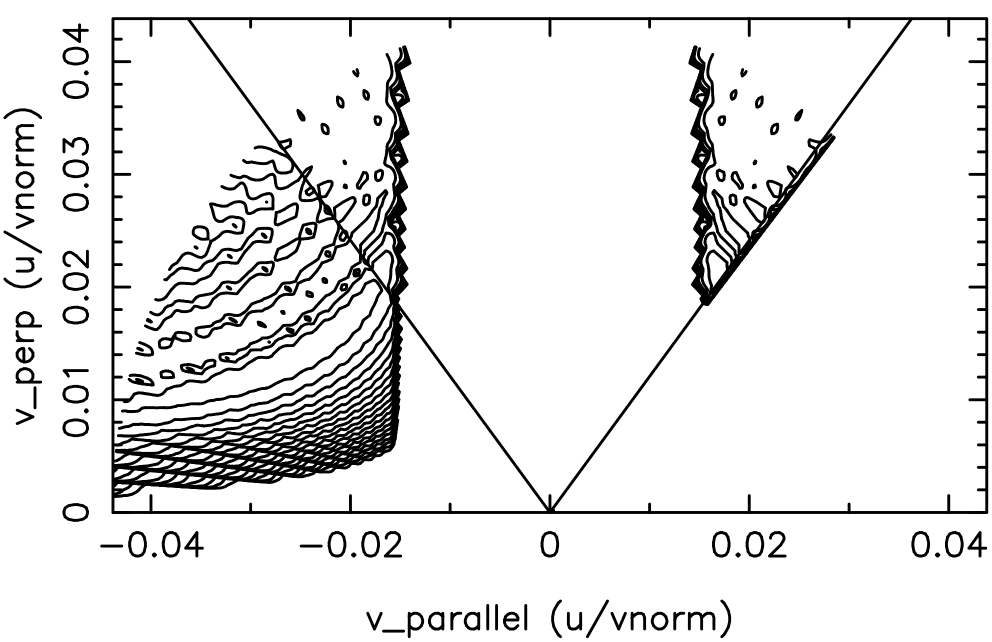
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 4 12; Species k=1
Max value for this surface/mode: 0.382E−05

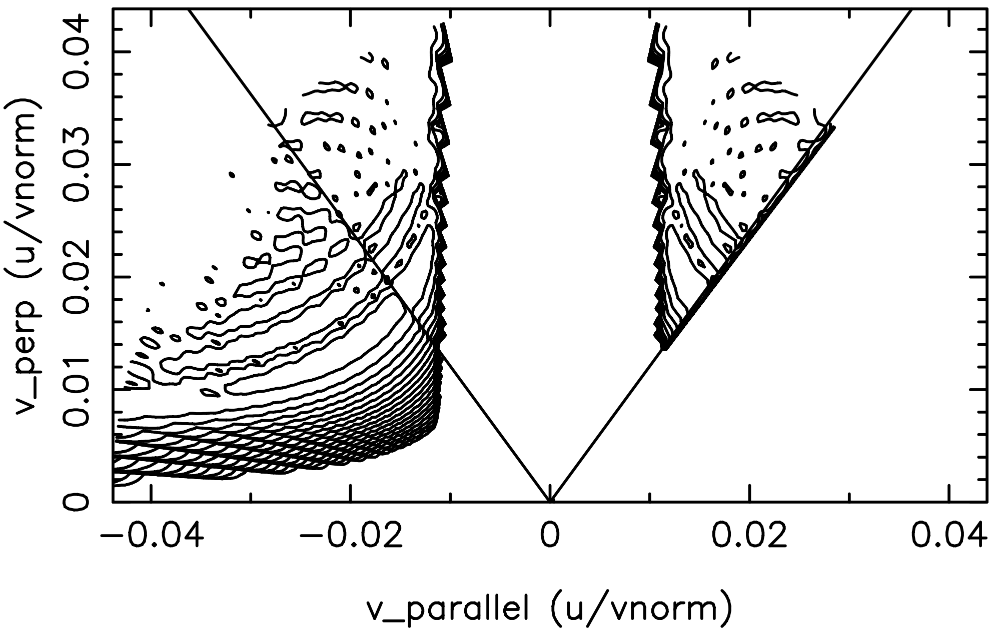
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 5 13; Species k=1
Max value for this surface/mode: 0.545E−05

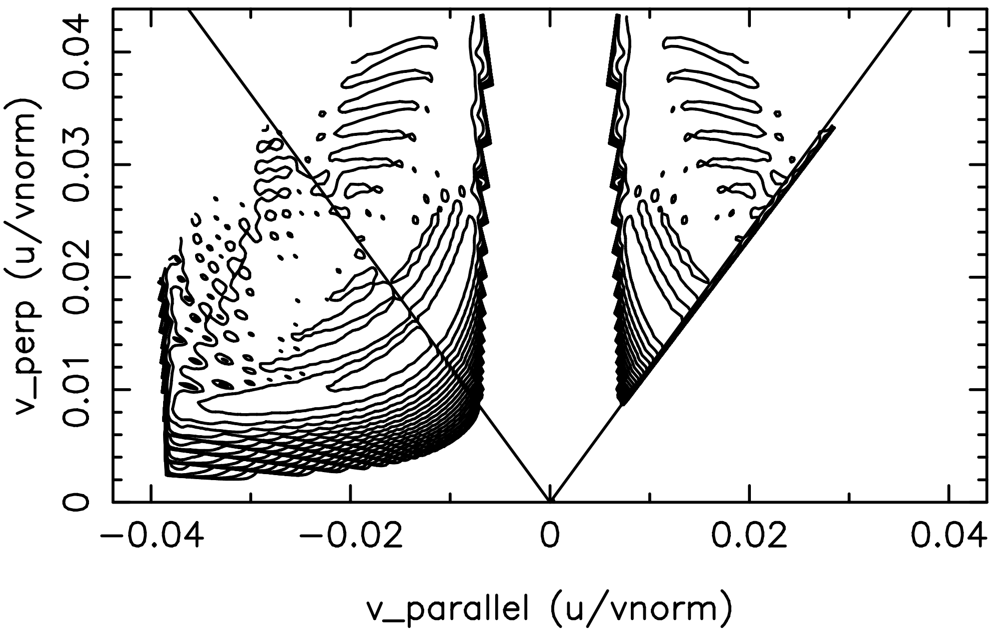
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 6 14; Species k=1
Max value for this surface/mode: 0.815E−05

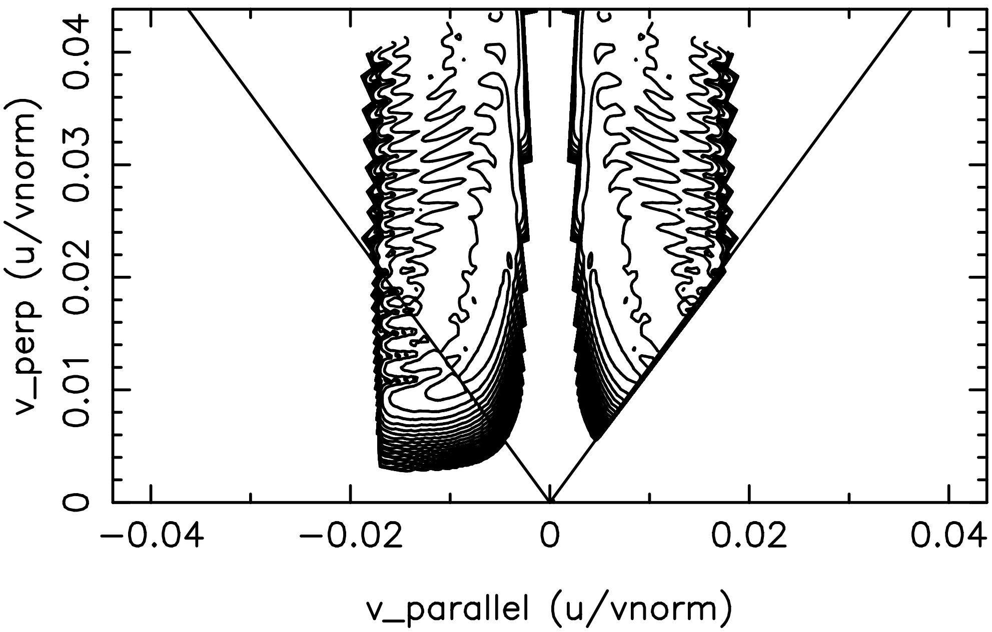
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 7 15; Species k=1
Max value for this surface/mode: 0.136E−04

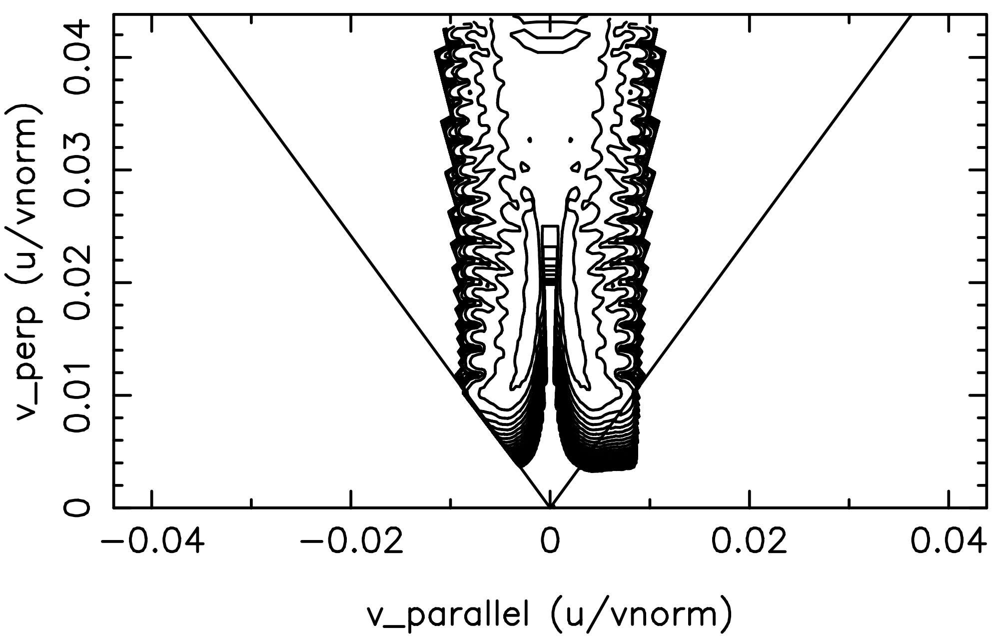
Contours of UrfB vs. v_parallel,v_perp



time step n= 10   time= 1.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm=   8   16; Species k=1
Max value for this surface/mode: 0.177E−04

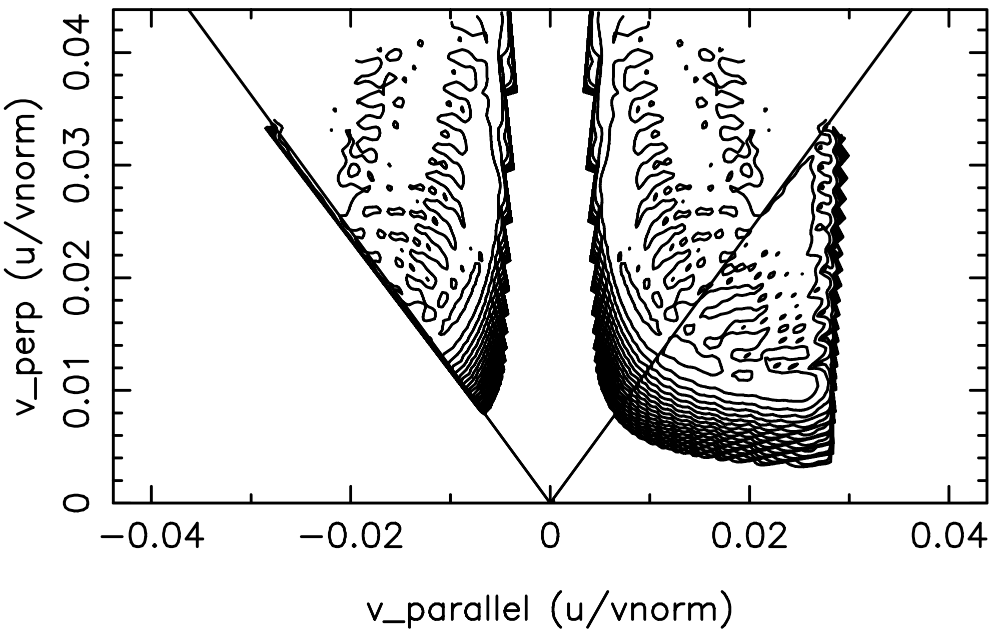
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 9 17; Species k=1
Max value for this surface/mode: 0.764E−04

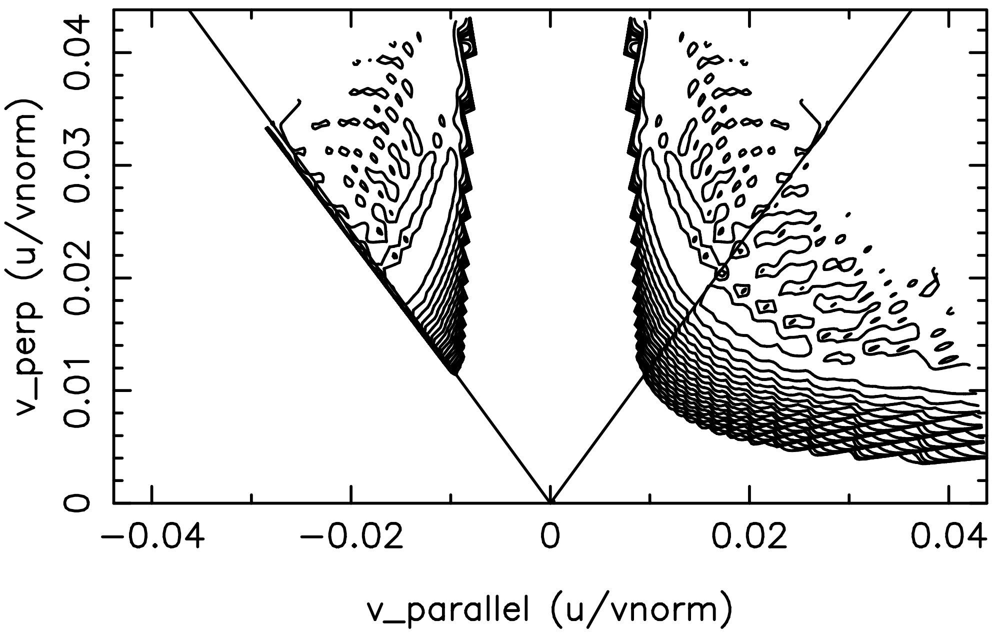
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 10 18; Species k=1
Max value for this surface/mode: 0.155E−03

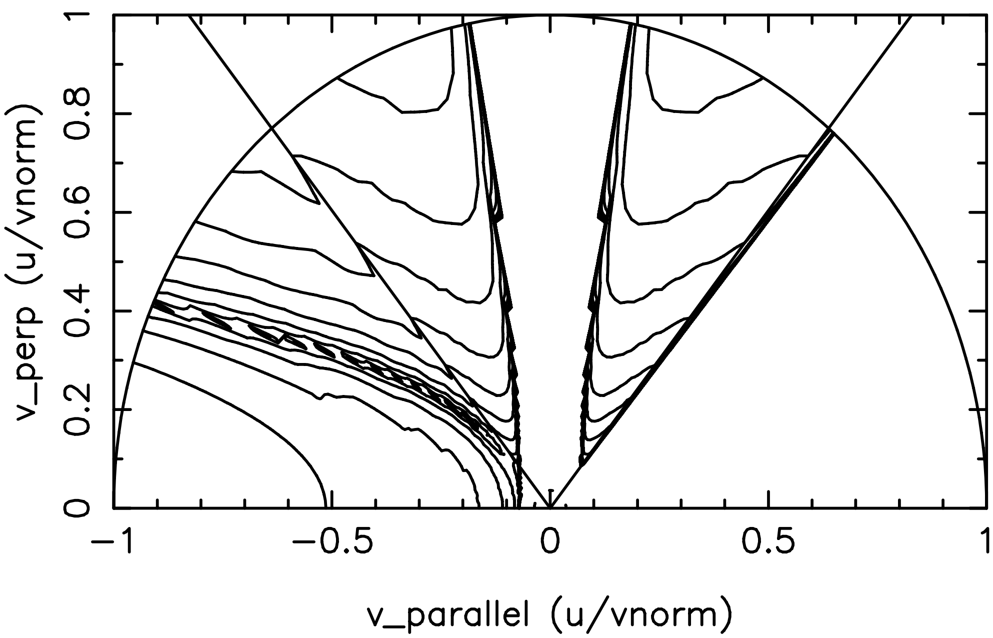
Contours of UrfB vs. v_parallel,v_perp



time step n= 10 time= 1.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm= 11 19; Species k=1
Max value for this surface/mode: 0.244E−03

Contours of UrfB vs. v_parallel,v_perp

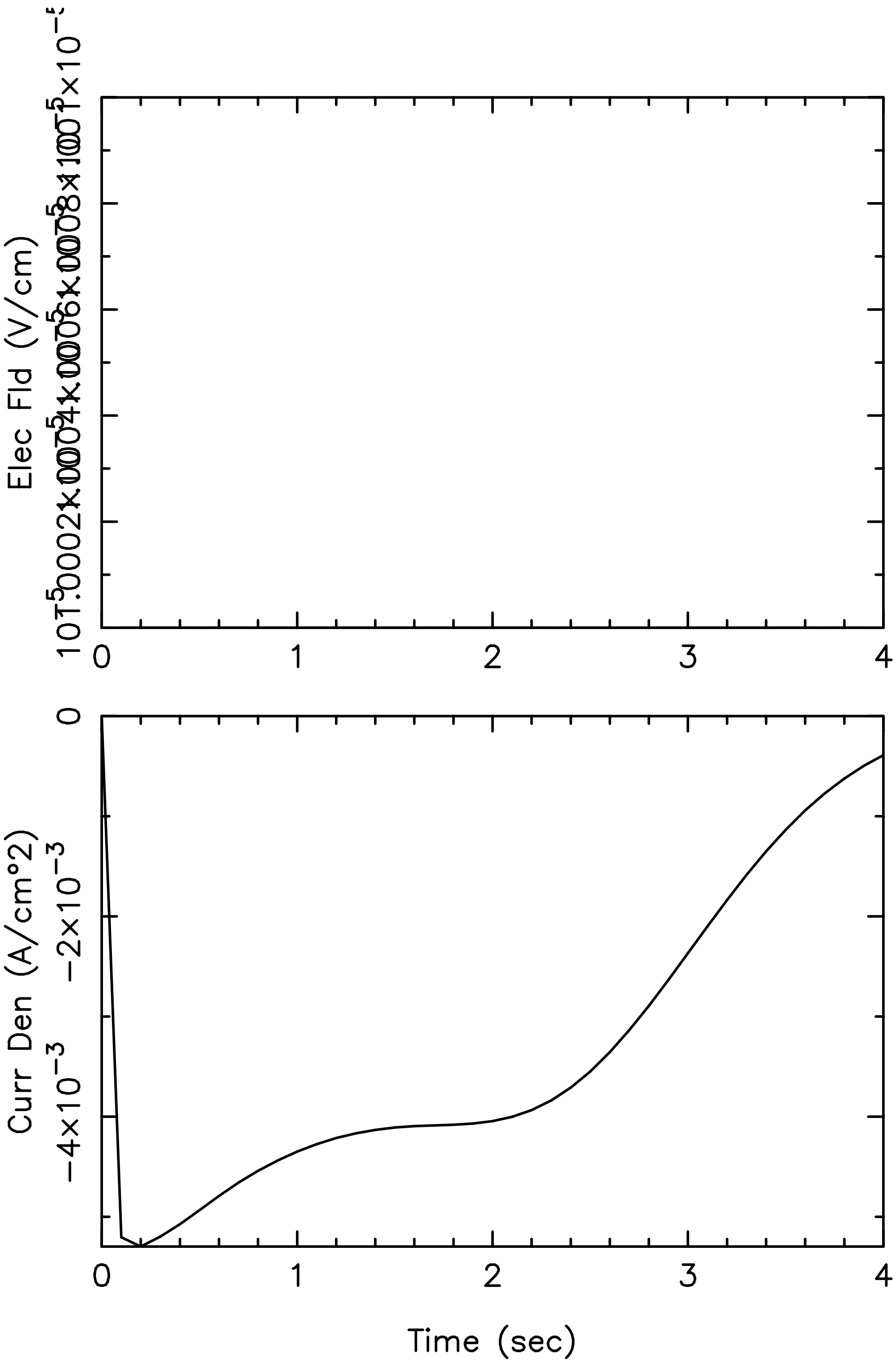


time step n= 10   time= 1.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

Contours of the rf (v,v) diffusion coefficient, urfb
Flux surf.N 32; mode,nharm=   12   0; Species k=2
Max value for this surface/mode: 0.259E+03

LOCAL RADIAL QUANTITIES

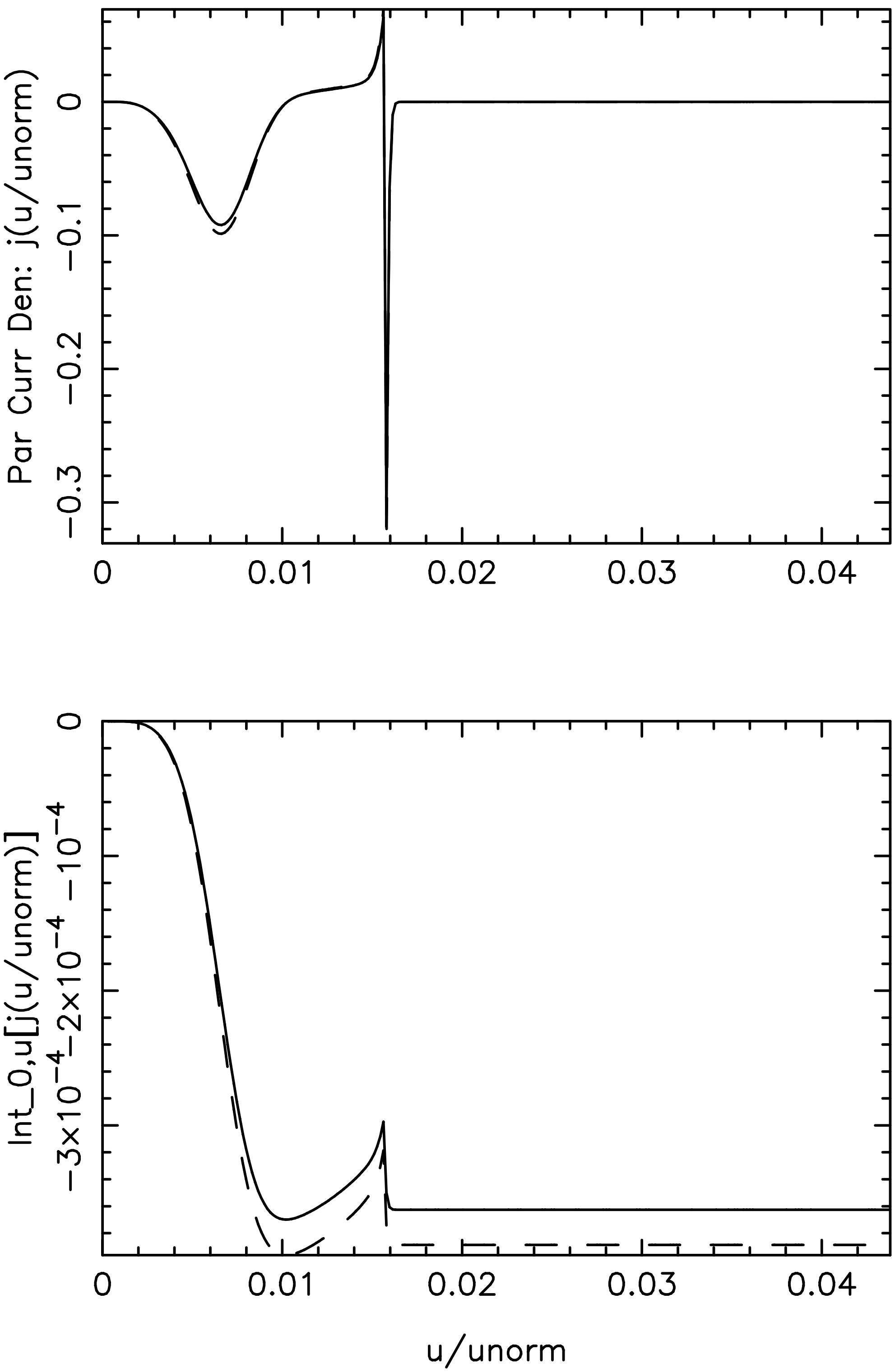
```
time step n=  40,      time=  4.0000E+00 secs
flux surf=  8      total flux surfs= 38
r/a=  2.00E-01      radial position (r) =  5.10E+01 cms
rya= 2.000E-01      R=rpcon= 7.002E+02 cm
enorm (kev) =    1000.000
vnorm/c =        2.78273
vthe (sqrt(te/me))/c =        0.25671
vthe/vnorm =        0.09225
k= 1  vth(k)/vnorm =       0.00107
k= 2  vth(k)/vnorm =       0.09225
k= 3  vth(k)/vnorm =       0.00107
k= 4  vth(k)/vnorm =       0.00151
k= 5  vth(k)/vnorm =       0.00123
k= 6  vth(k)/vnorm =       0.00071
k= 7  vth(k)/vnorm =       0.00034
k= 8  vth(k)/vnorm =       0.09225
```



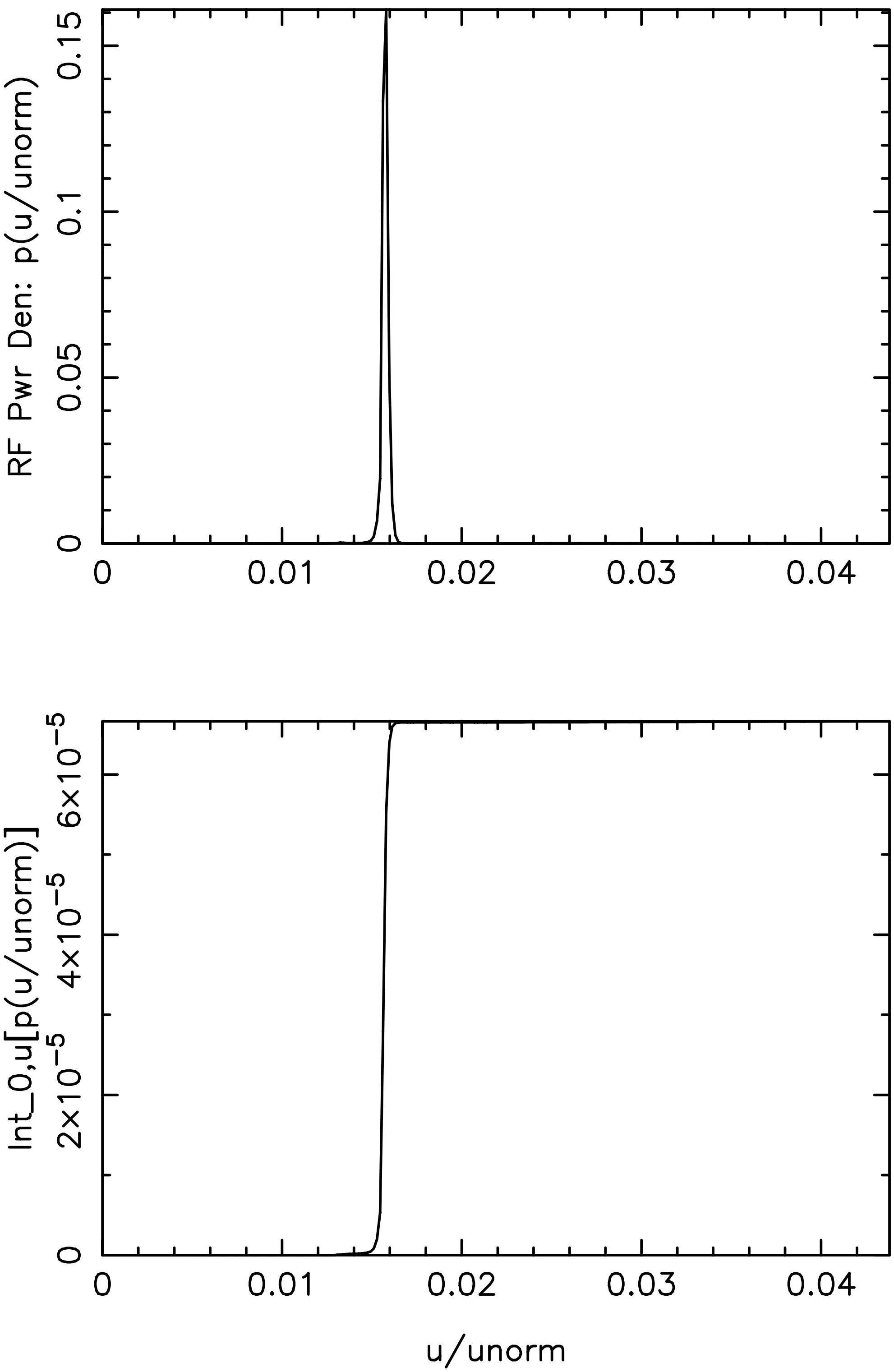
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = −3.8930E−04 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = −1.4203E−03 A/W

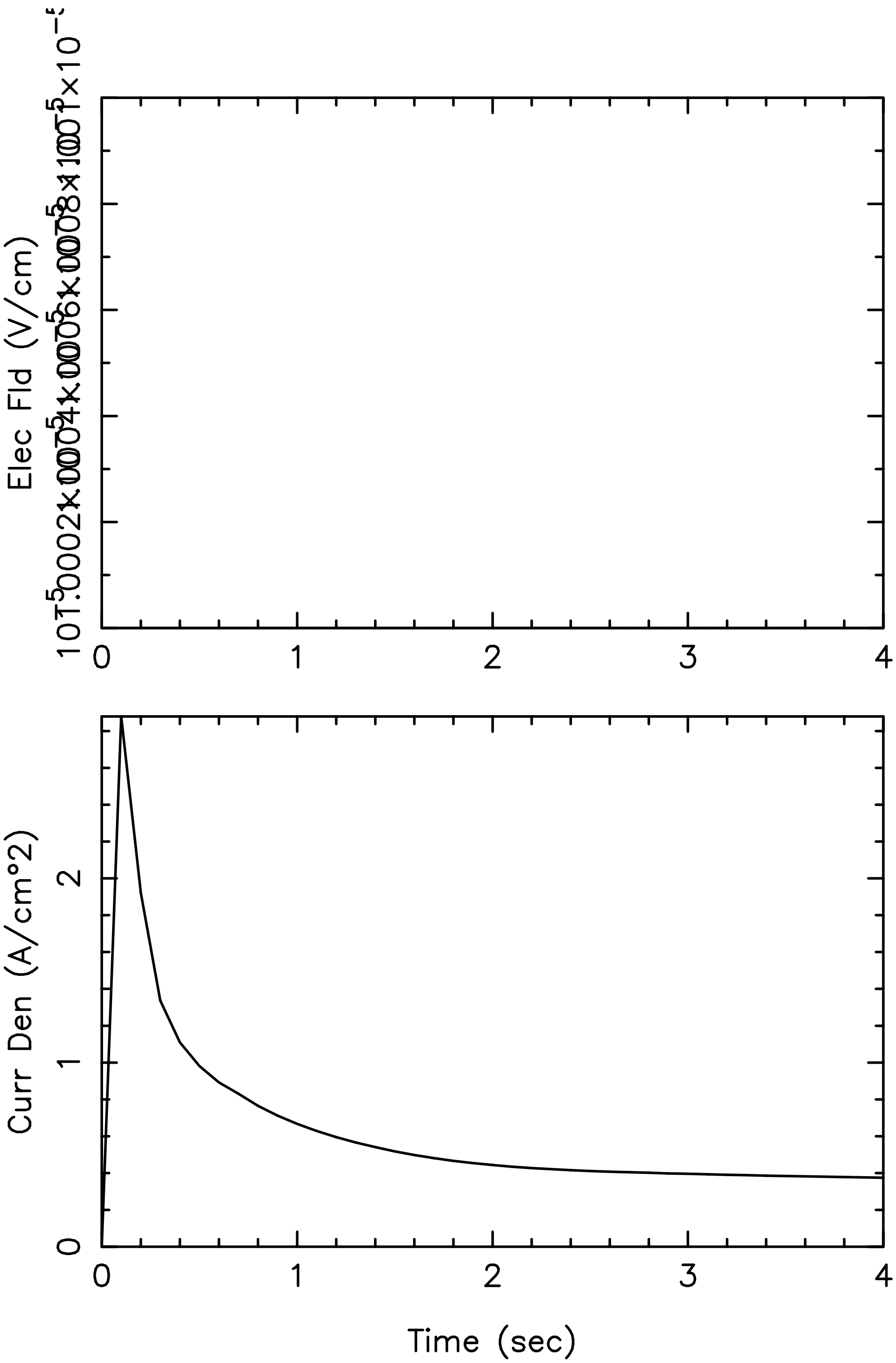
Solid: midplane; Dashed: <..>_FSA



Species: 1 Current(FSA)=−.3887E−03 Amps/cm^2



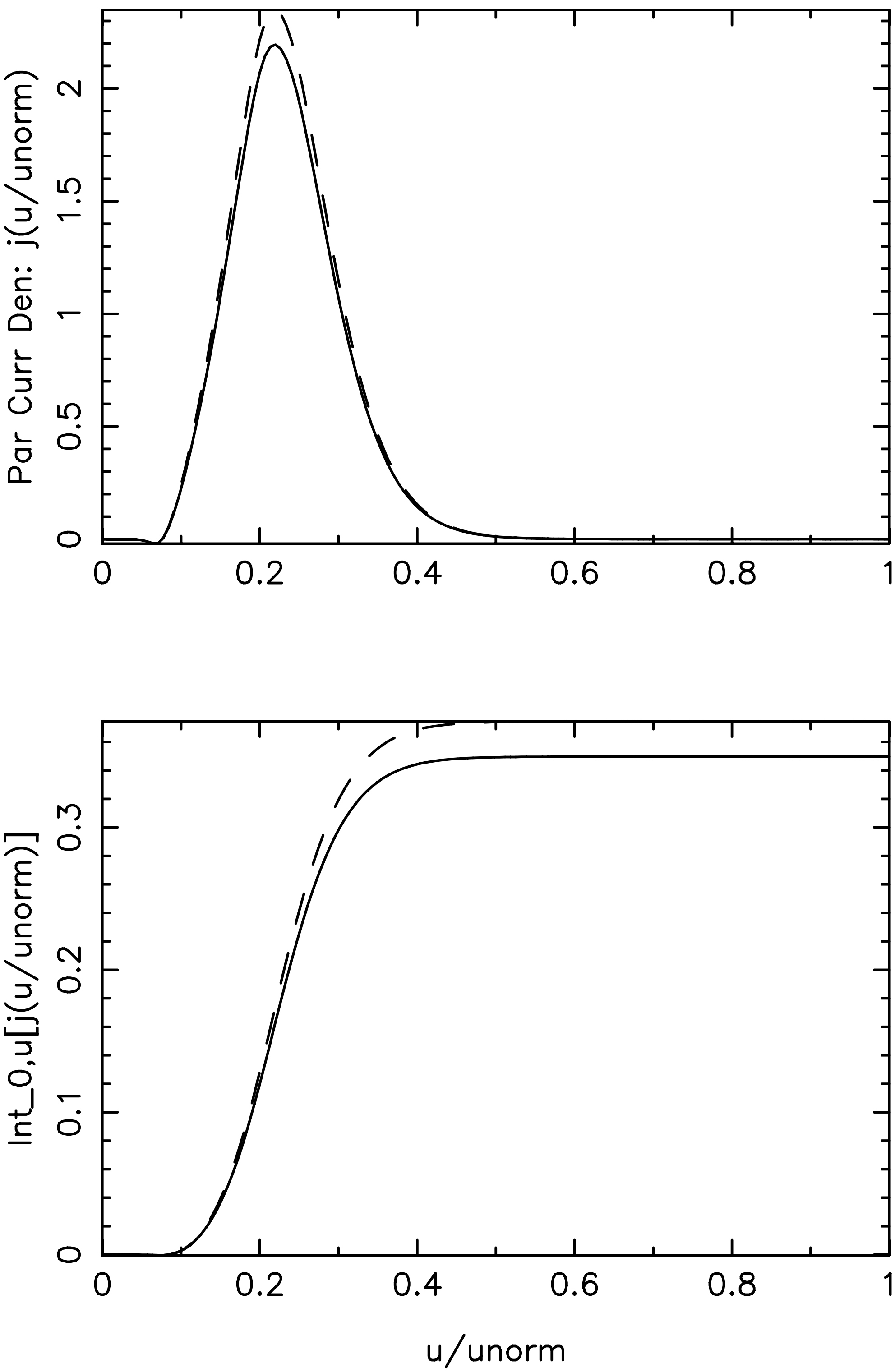
Species: 1 Power =0.6663E−04 Watts/cc



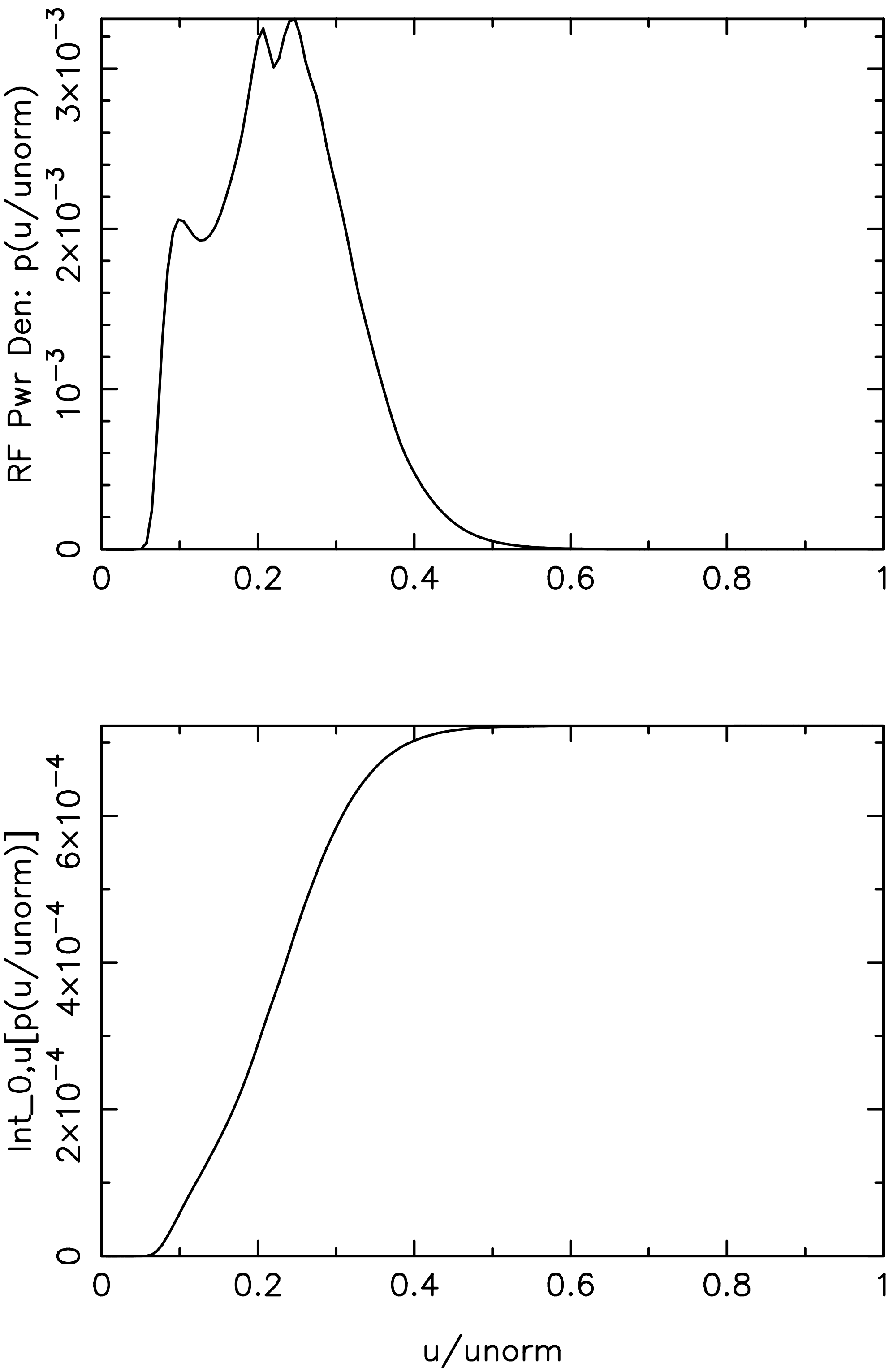
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 3.7495E−01 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 1.2612E−01 A/W
Electron current (units ne*q*vth(kelec,lr_)) =   5.0703E−06
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 6.5714E−07
efficiency (j/p) (Fisch 1978 units) =   7.7157E+00
efficiency (j/p) (e/(m*c*nu_c units) =   5.0847E−01
vth(kelec,lr_) = sqrt(T/m) =   7.6960E+09 cm/sec
nu0 =   3.3960E+03 Hz

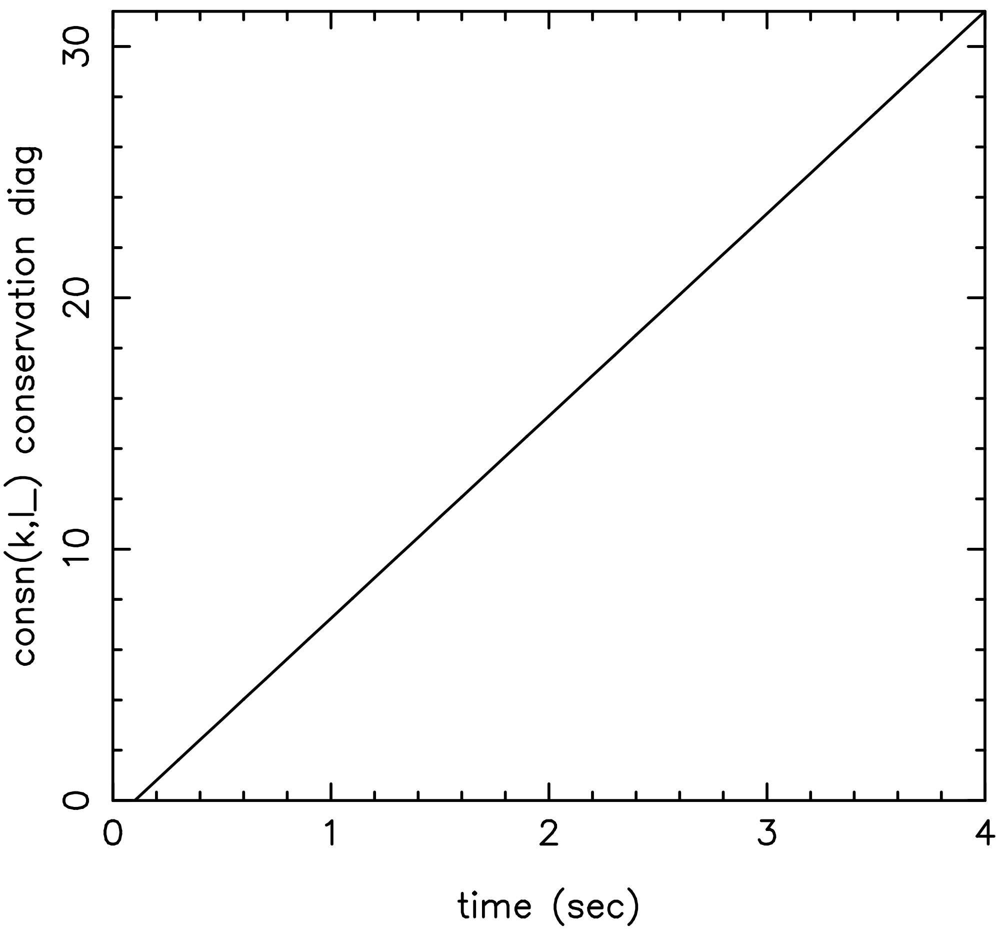
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.3744E+00 Amps/cm^2

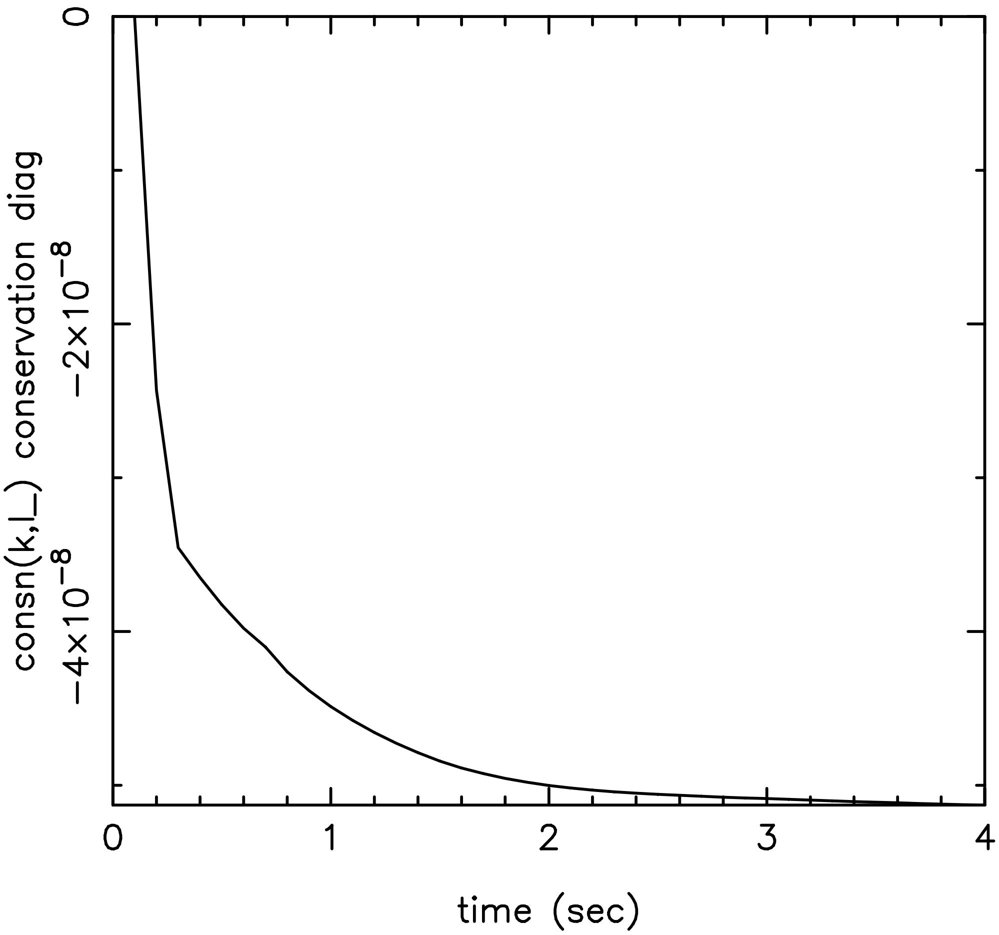


Species: 2 Power =0.7227E-03 Watts/cc



consn(k,l_)= 3.1400E+01
Perfect conservation should yield machine accuracy,
or about 1.e−14:

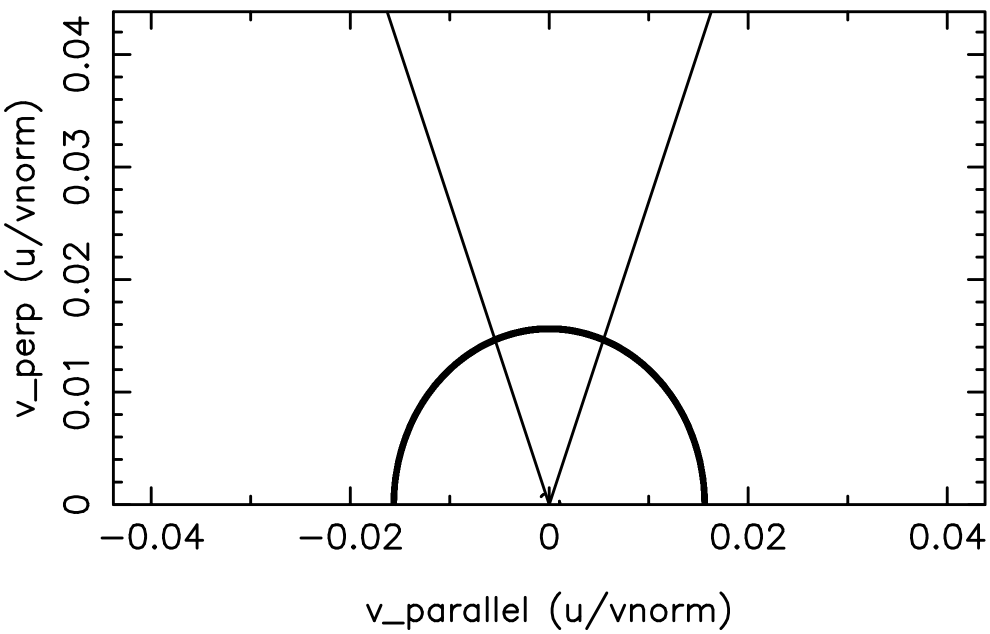
time step (n) is 40   time= 4.0000E+00 secs   Species k= 1
r/a= 2.0000E−01   radial position (r) = 7.0017E+02 cm



consn(k,l_)= −5.1299E−08
Perfect conservation should yield machine accuracy,
or about 1.e−14:

time step (n) is 40   time= 4.0000E+00 secs   Species k= 2
r/a= 2.0000E−01   radial position (r) = 7.0017E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 40   time= 4.00E+00 secs
r/a= 2.00E−01   radial position (r) = 5.10E+01 cm
rya= 2.000E−01   R=rpcon= 7.002E+02 cm, Surf# 8

NBI source rate= 0.0000E+00 ptcls/cc/sec

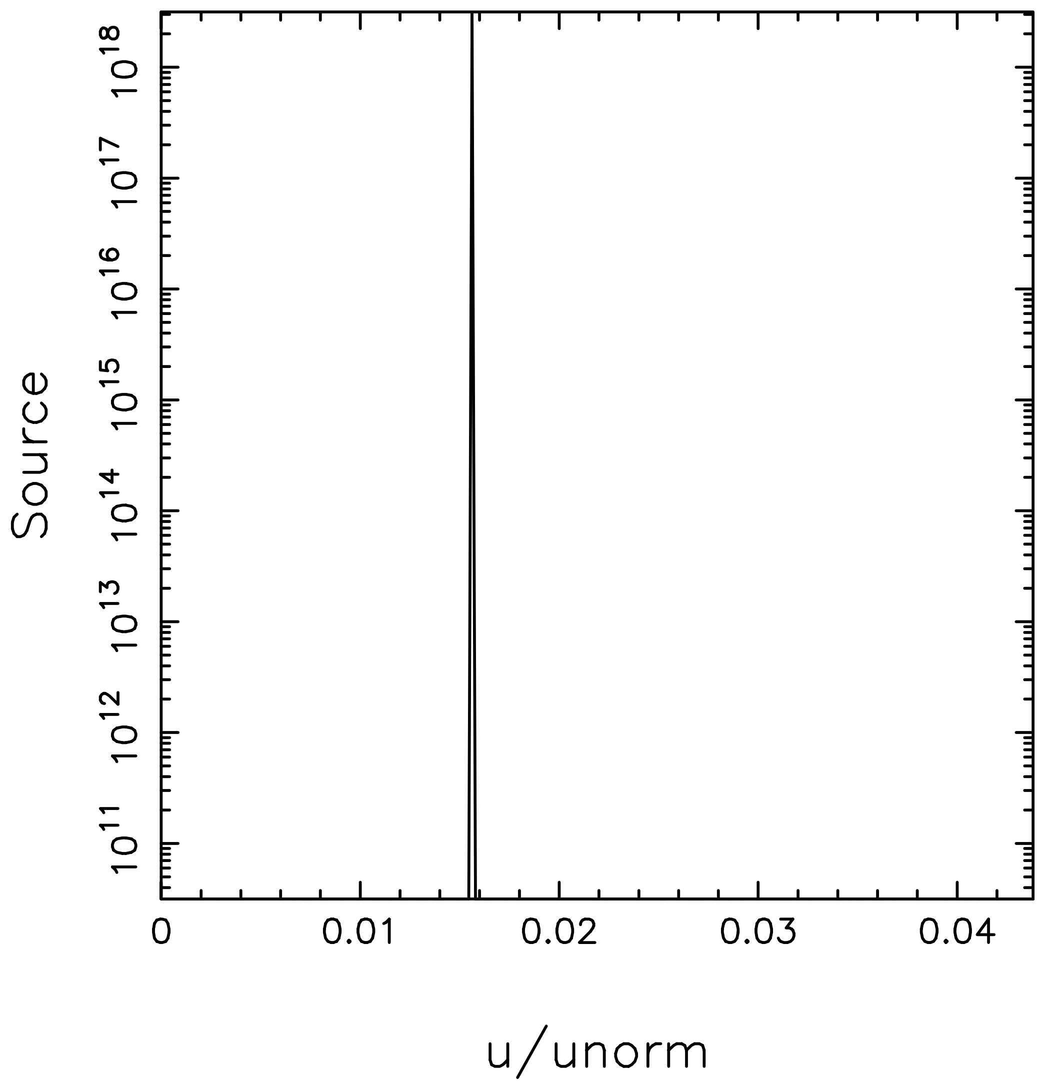
FUS source rate= 4.1643E+11 ptcls/cc/sec

Total source power [entr(..5..)]= 2.3485E−01 W/cc

Contour values:

1.6638E+06	6.6238E+06	2.6370E+07	1.0498E+08
4.1794E+08	1.6638E+09	6.6238E+09	2.6370E+10
1.0498E+11	4.1794E+11	1.6638E+12	6.6238E+12
2.6370E+13	1.0498E+14	4.1794E+14	1.6638E+15
6.6238E+15	2.6370E+16	1.0498E+17	4.1794E+17

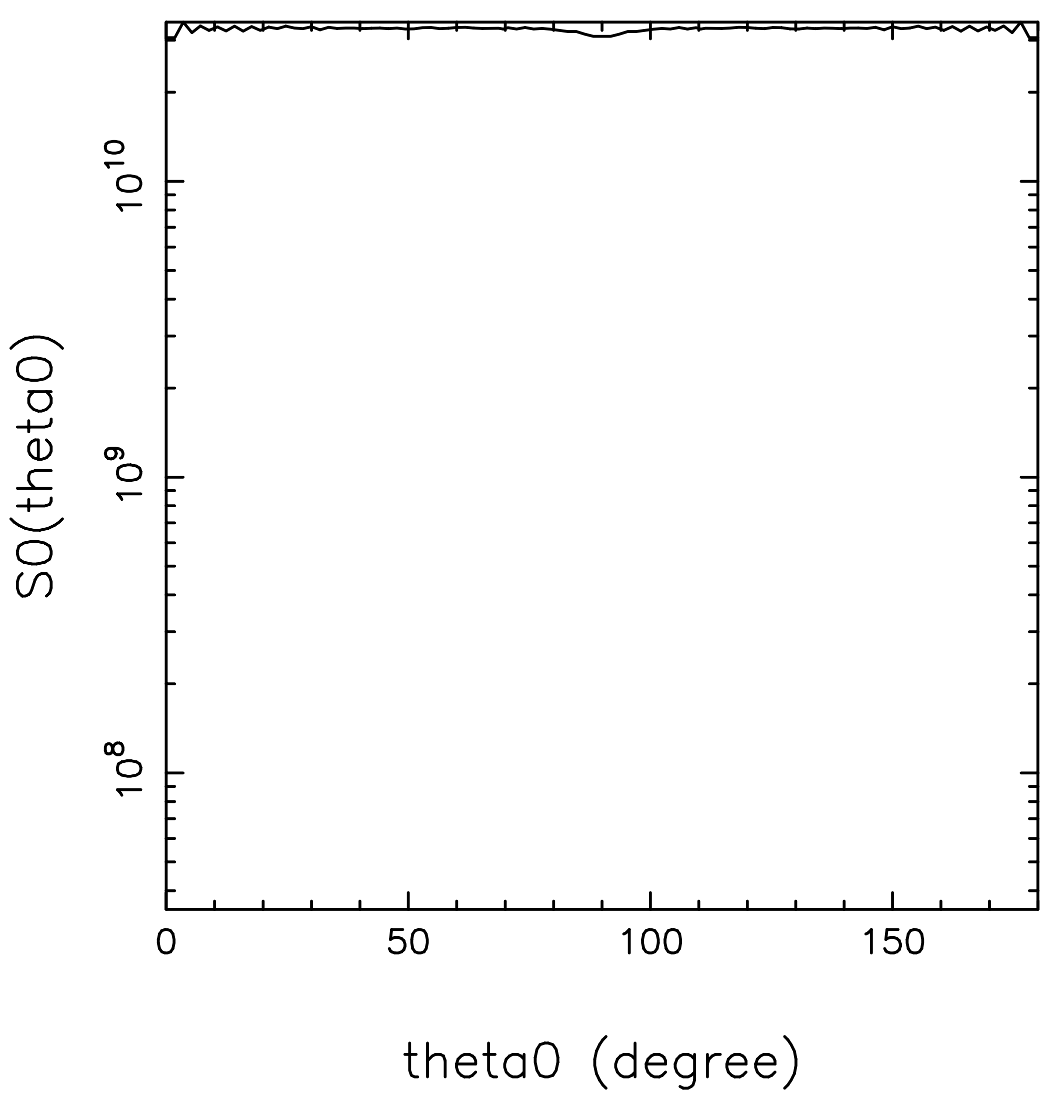
Pitch Angle Avg Source vs. u



Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm= 8.3424E+10 cm/s

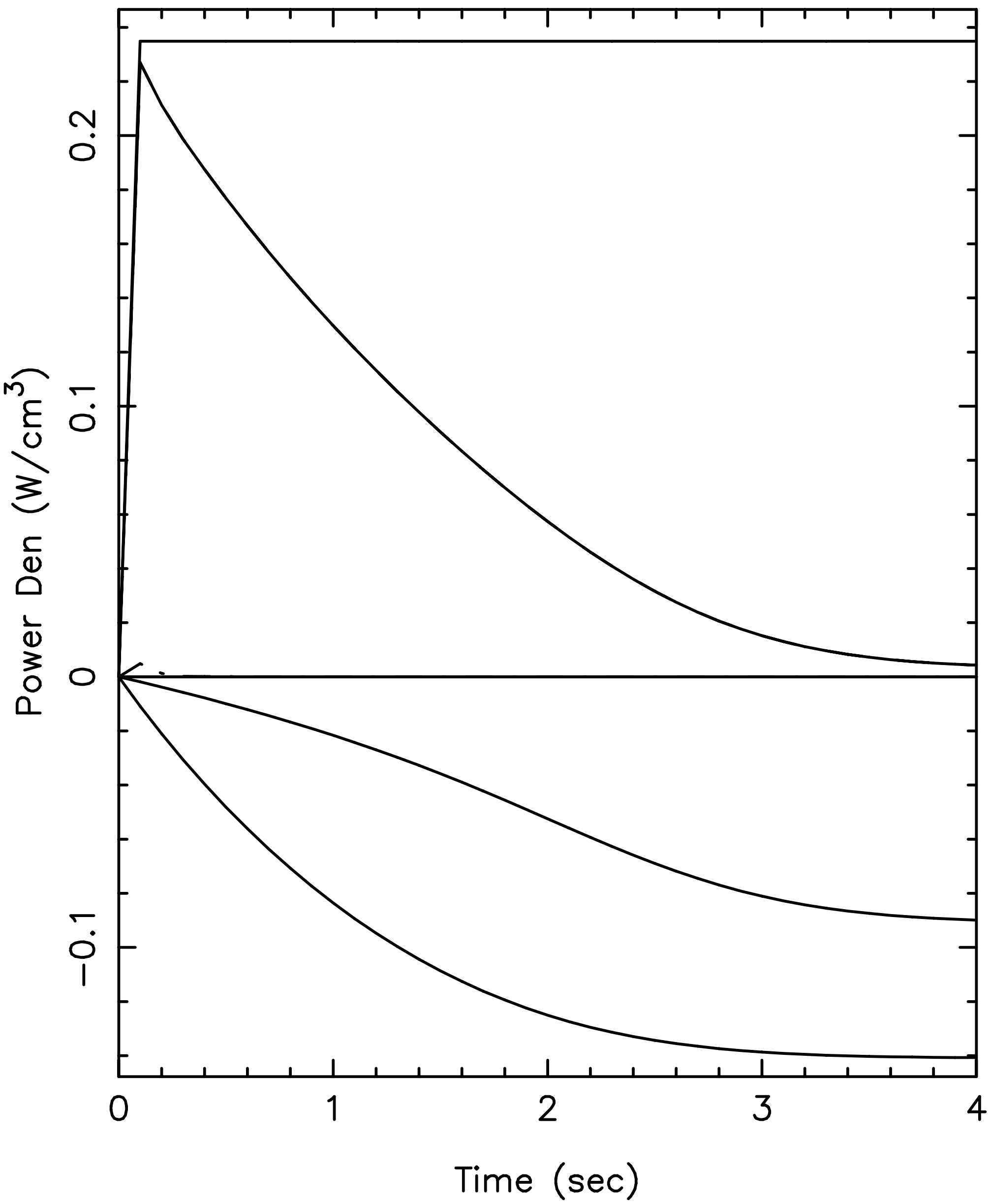
time step (n) is 40 time= 4.0000E+00 secs
r/a= 2.0000E-01 radial position (r) = 7.0017E+02 cm

v—integrated Source

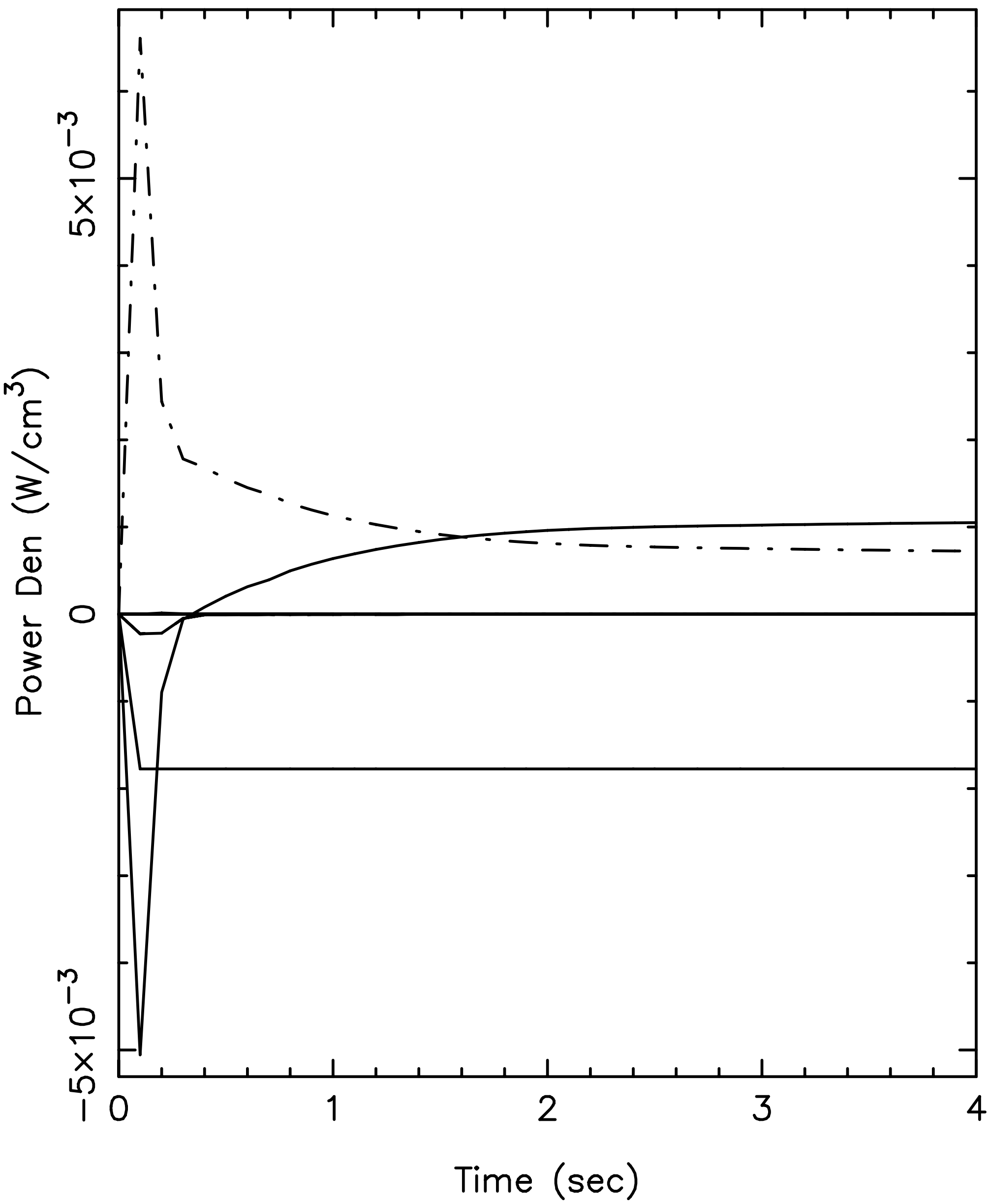


Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 40 time= 4.0000E+00 secs
r/a= 2.0000E-01 radial position (r) = 7.0017E+02 cm

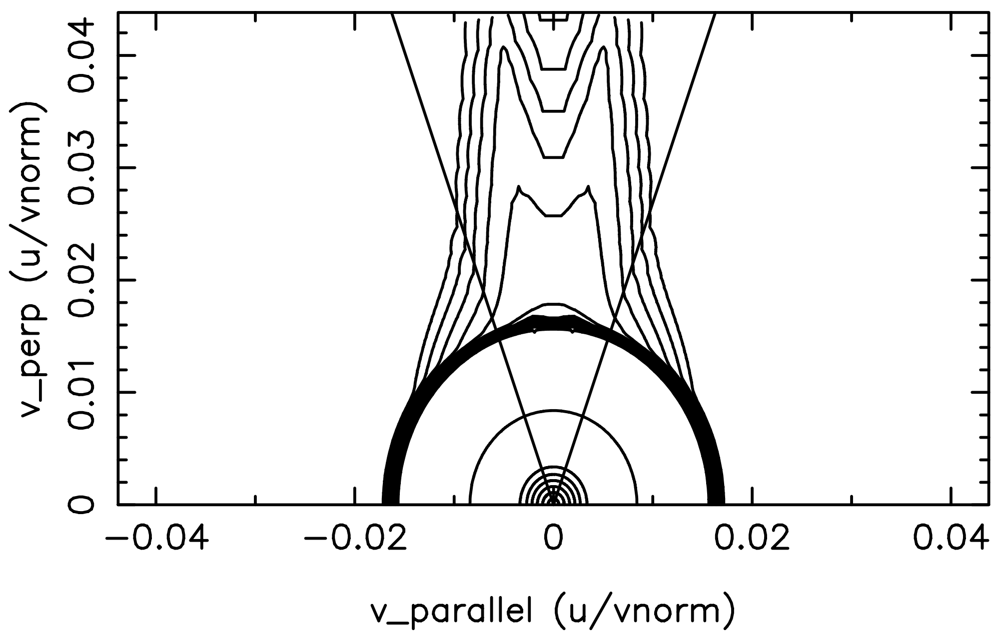


Species k= 1   Final powers in Watts/cc are:
sum over all comp= 4.32E−03   From df/dt : 4.32E−03
collisional transfer from Maxwellian elec.= −1.41E−01
collisional transfer from Maxwellian ions= −8.99E−02
collisional transfer from gens.= 0.00E+00
ohmic drive= 0.00E+00
RF drive= 6.66E−05
particle sources= 2.35E−01
loss−lossmode(k)= −5.47E−33   losses−torloss(k)= −3.01E−91
losses due to runaway= 0.00E+00
setting neg f to zero= 4.86E−16
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00



Species k= 2   Final powers in Watts/cc are:
sum over all comp= −1.33E−07   From df/dt : −1.33E−07
collisional transfer from Maxwellian elec.= 1.05E−03
collisional transfer from Maxwellian ions= −1.77E−03
collisional transfer from gens.= 3.92E−07
ohmic drive= 0.00E+00
RF drive= 7.23E−04
particle sources= 0.00E+00
loss−lossmode(k)= 0.00E+00   losses−torloss(k)= −5.23E−91
losses due to runaway= 0.00E+00
setting neg f to zero= 0.00E+00
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00

Species 1 Distribution Function Contour Plot

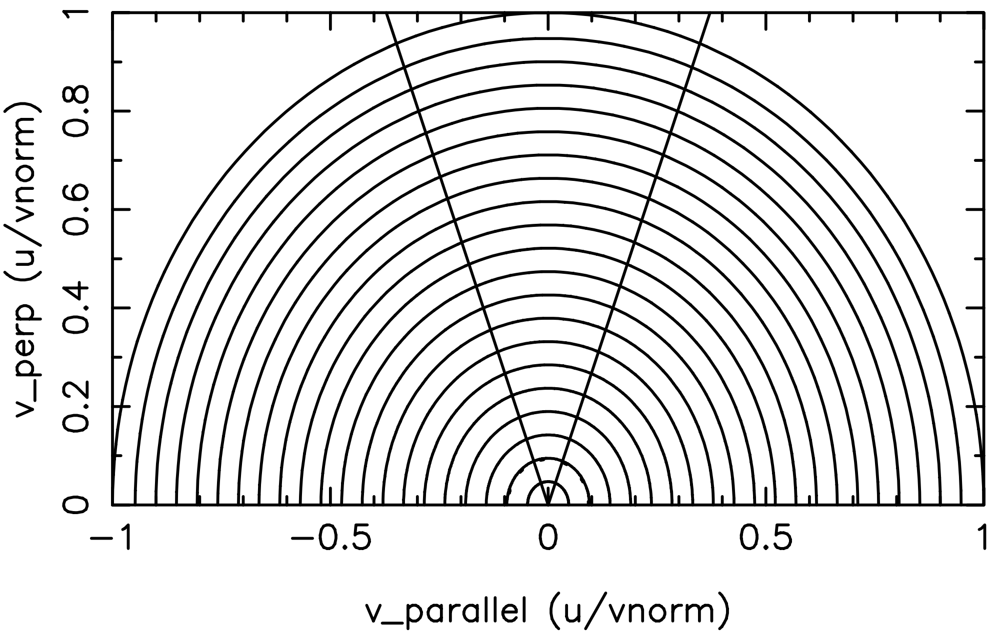


time step n= 40 time= 4.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contour values:

2.337171E+19	1.591617E+19	8.556990E+18	3.724652E+18
1.350581E+18	4.196780E+17	1.146828E+17	2.818316E+16
6.346494E+15	1.329887E+15	2.625782E+14	4.934572E+13
8.898711E+12	1.550085E+12	2.622169E+11	4.326548E+10
6.988061E+09	1.108135E+09	1.729493E+08	2.662122E+07

Species 2 Distribution Function Contour Plot



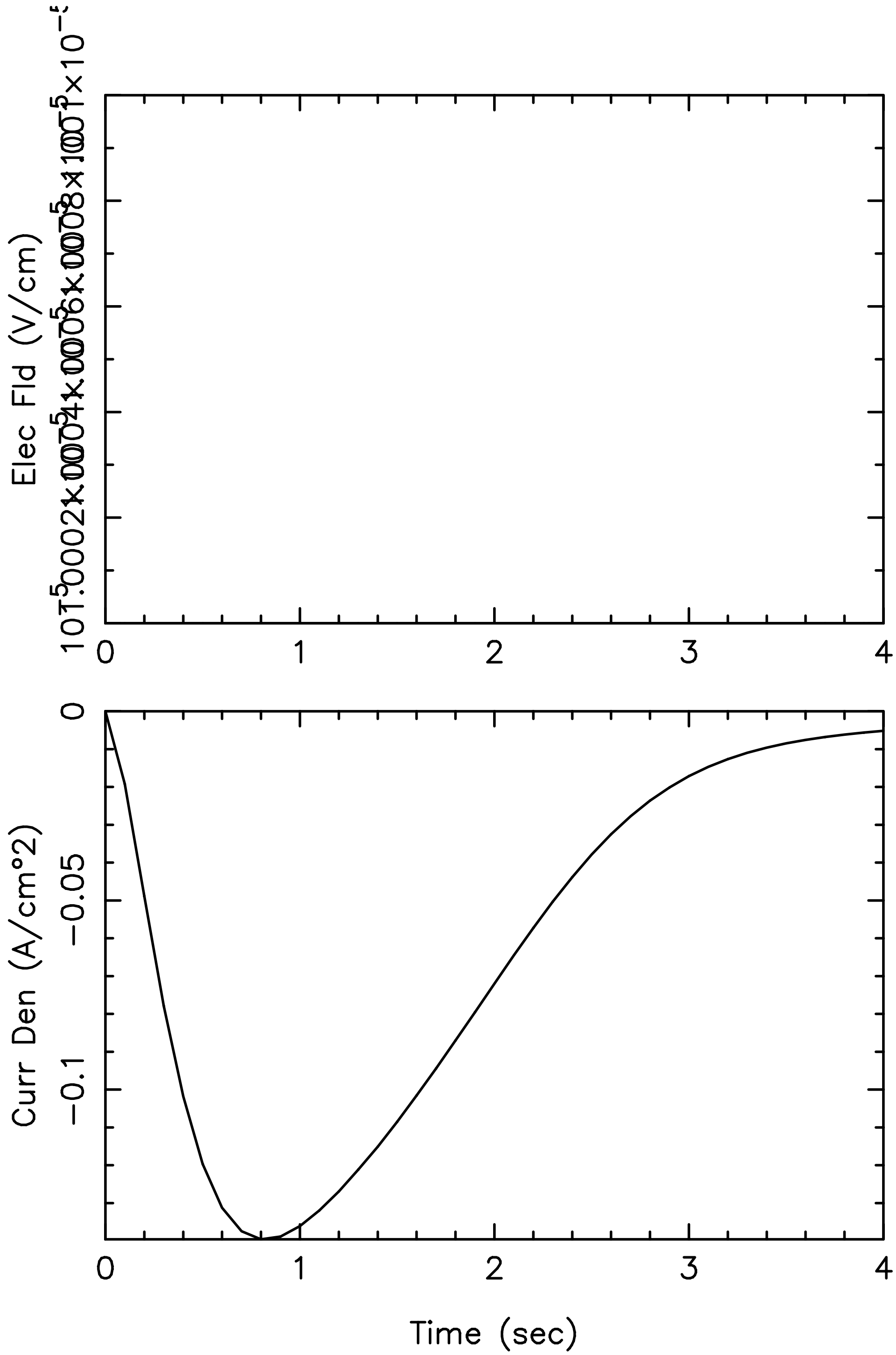
time step n= 40 time= 4.00E+00 secs
r/a= 2.00E−01 radial position (r) = 5.10E+01 cm
rya= 2.000E−01 R=rpcon= 7.002E+02 cm, Surf# 8

Contour values:

3.750332E+15	2.545291E+15	1.361641E+15	5.893061E+14
2.124640E+14	6.568014E+13	1.787191E+13	4.378238E+12
9.839835E+11	2.060205E+11	4.068772E+10	7.655821E+09
1.383545E+09	2.417080E+08	4.103673E+07	6.799894E+06
1.103588E+06	1.759326E+05	2.761629E+04	4.276968E+03

LOCAL RADIAL QUANTITIES

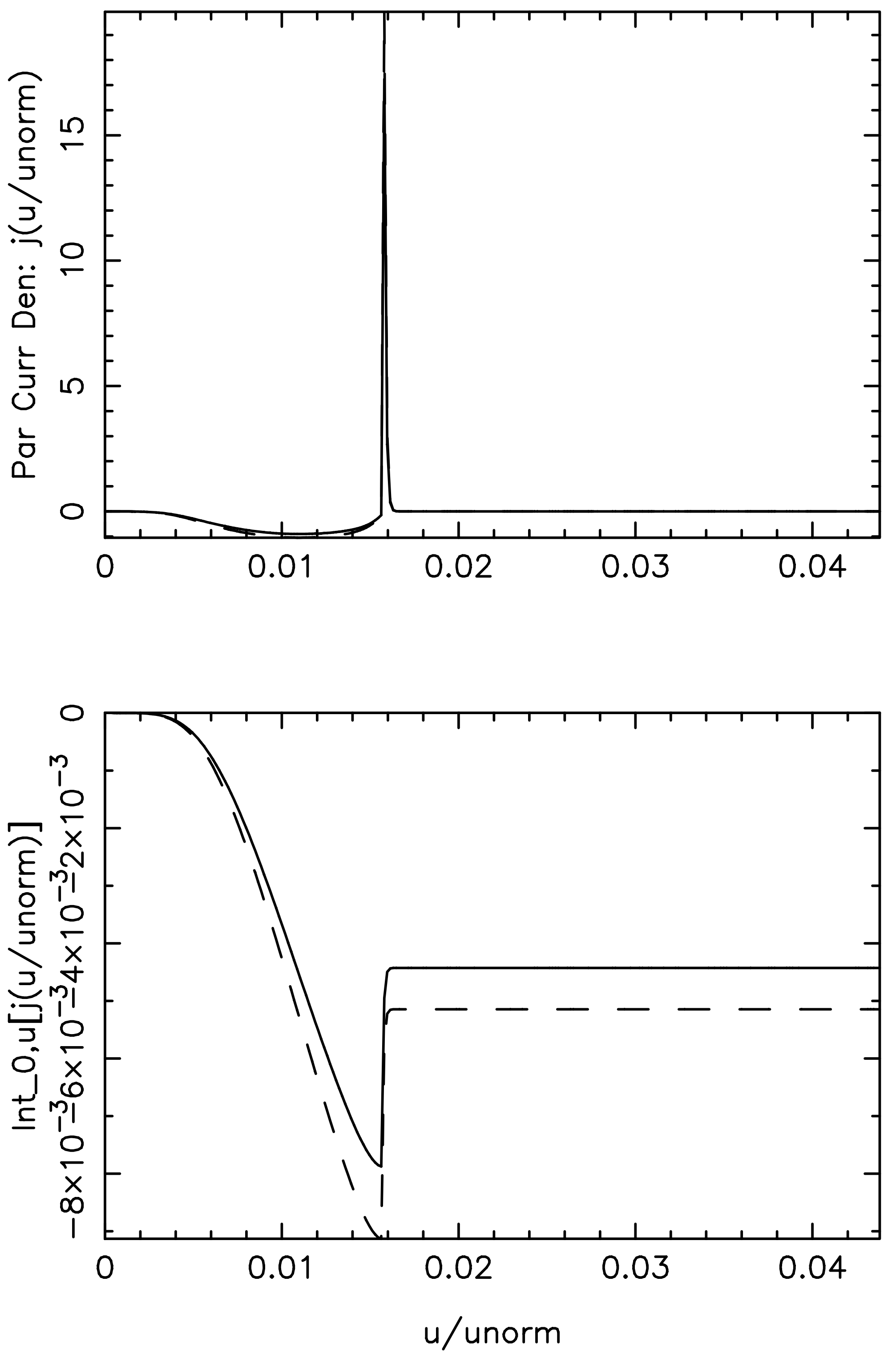
time step n= 40, time= 4.0000E+00 secs
flux surf= 16 total flux surfs= 38
r/a= 4.00E-01 radial position (r) = 1.02E+02 cms
rya= 4.000E-01 R=rpcon= 7.387E+02 cm
enorm (kev) = 1000.000
vnorm/c = 2.78273
vthe (sqrt(te/me))/c = 0.21578
vthe/vnorm = 0.07754
k= 1 vth(k)/vnorm = 0.00087
k= 2 vth(k)/vnorm = 0.07754
k= 3 vth(k)/vnorm = 0.00087
k= 4 vth(k)/vnorm = 0.00123
k= 5 vth(k)/vnorm = 0.00101
k= 6 vth(k)/vnorm = 0.00058
k= 7 vth(k)/vnorm = 0.00028
k= 8 vth(k)/vnorm = 0.07754



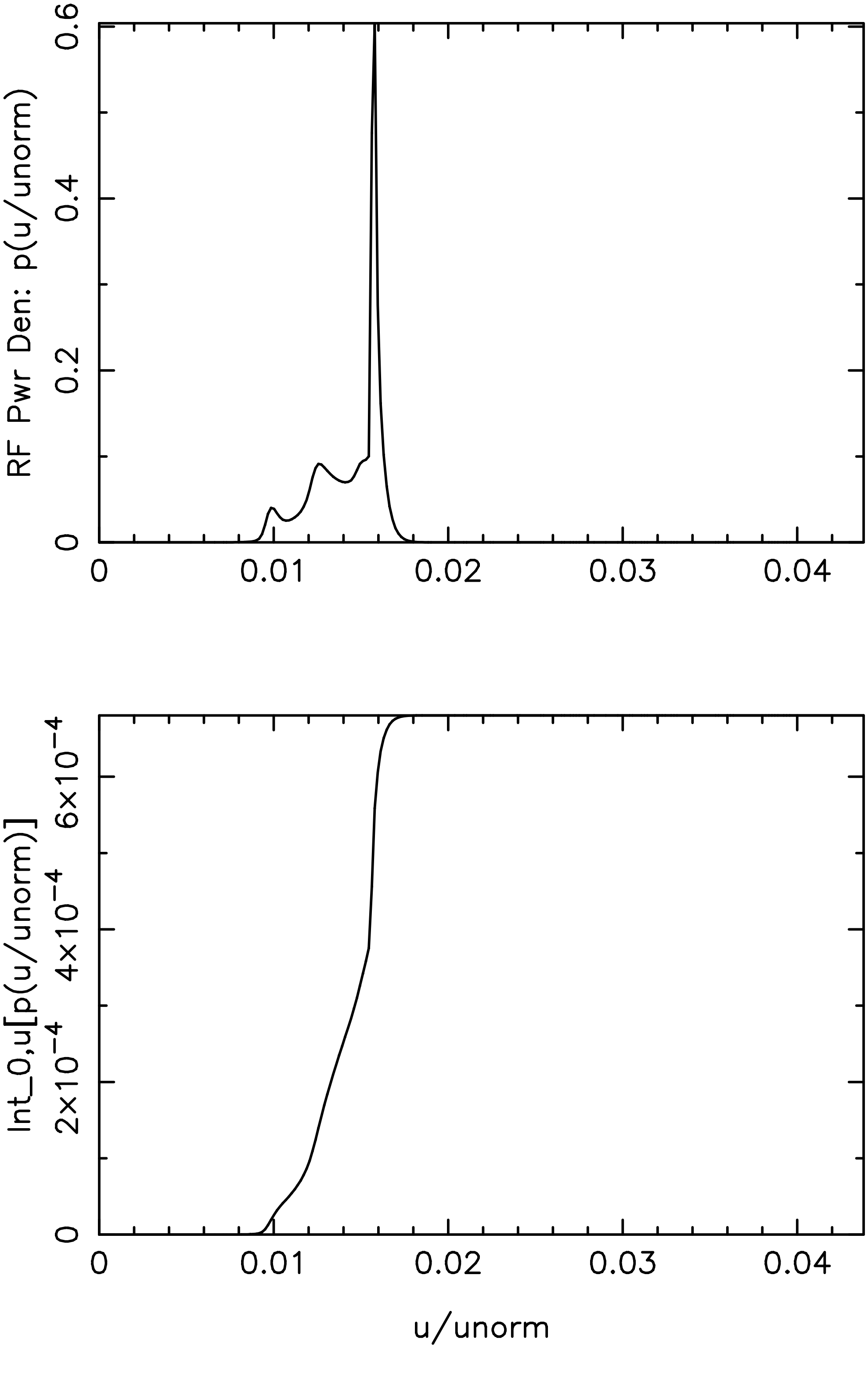
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = −5.1621E−03 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = −1.8882E−03 A/W

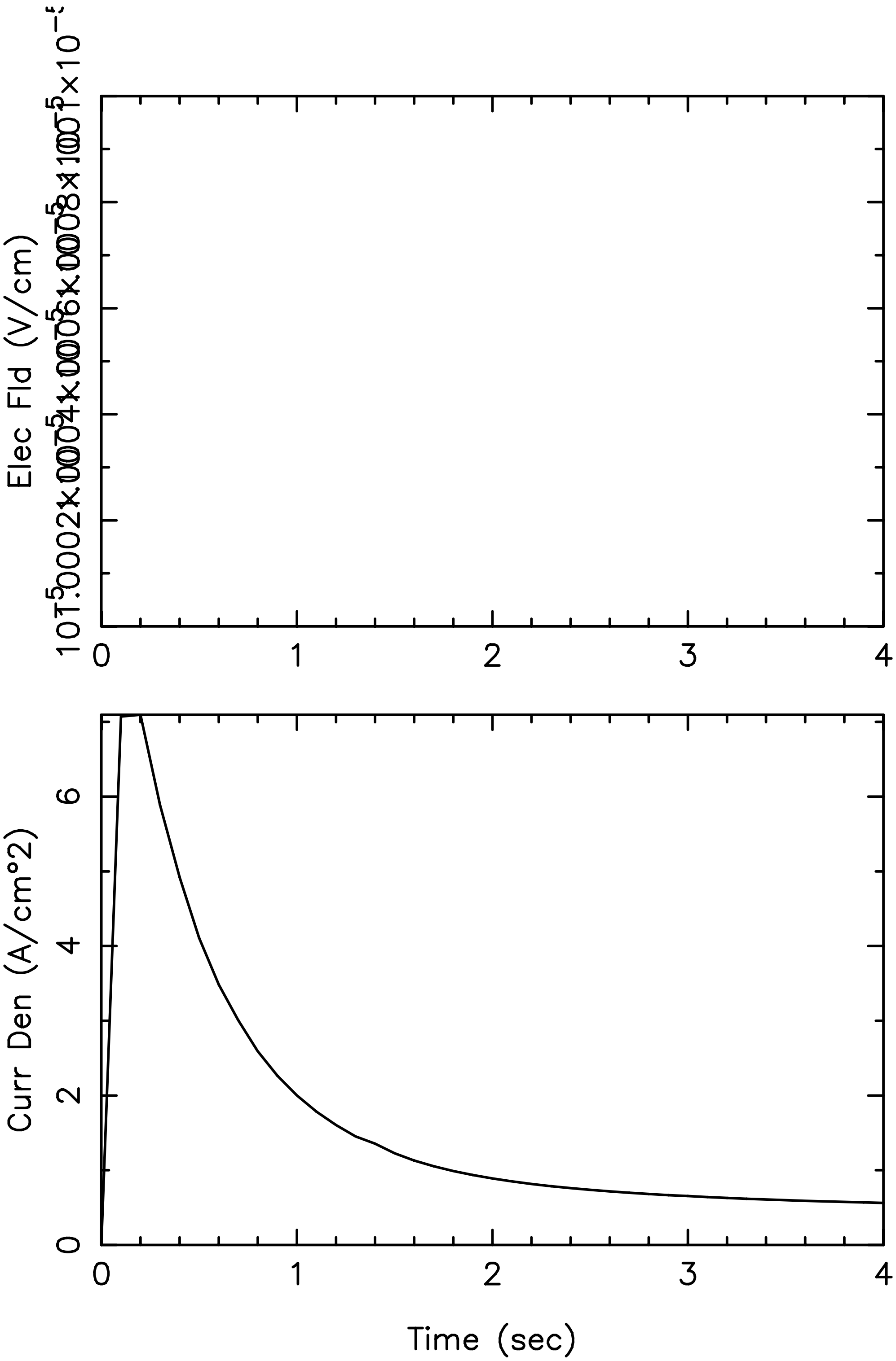
Solid: midplane; Dashed: <..>_FSA



Species: 1 Current(FSA)=−.5145E−02 Amps/cm^2



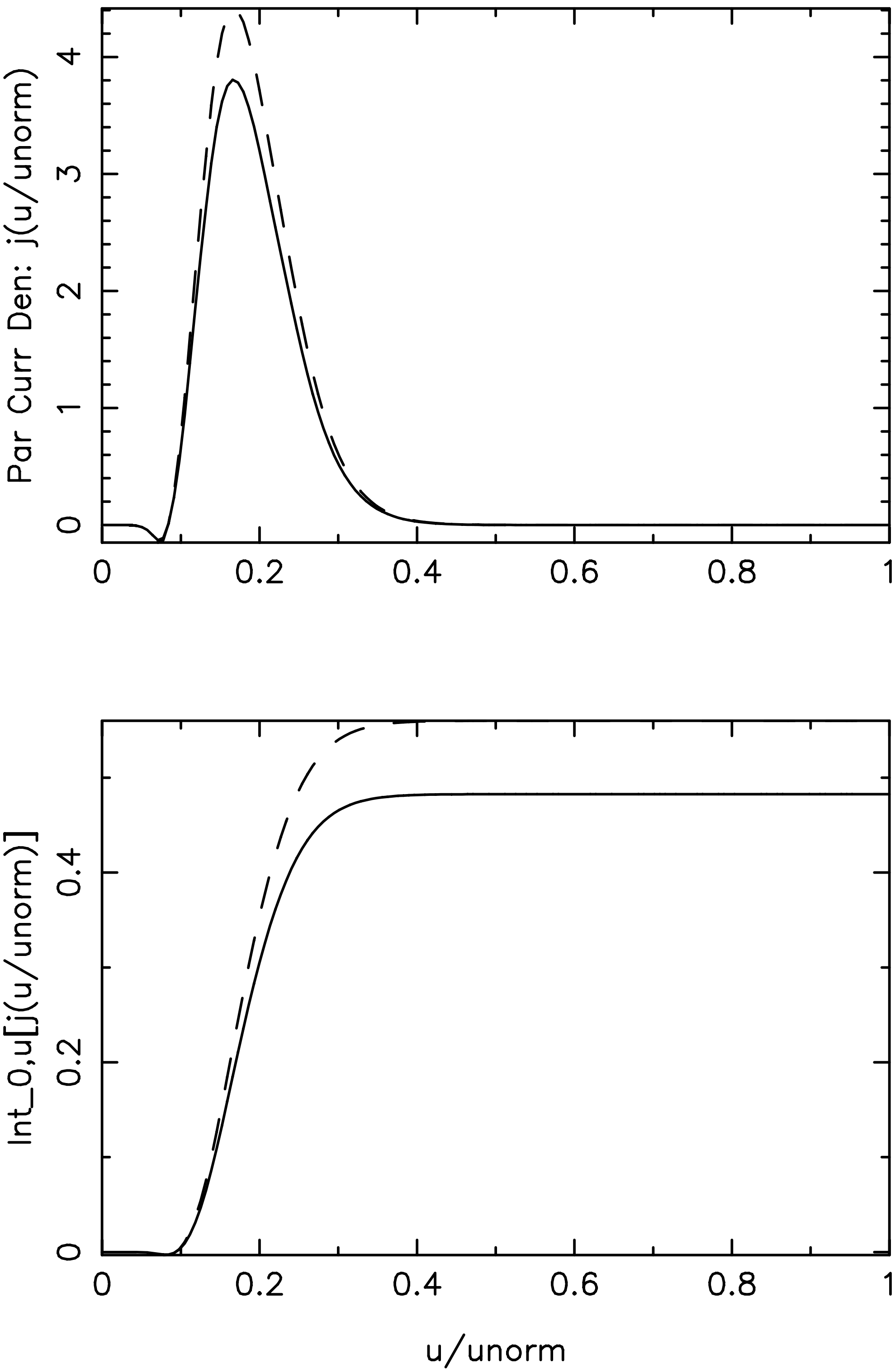
Species: 1 Power =0.6804E-03 Watts/cc



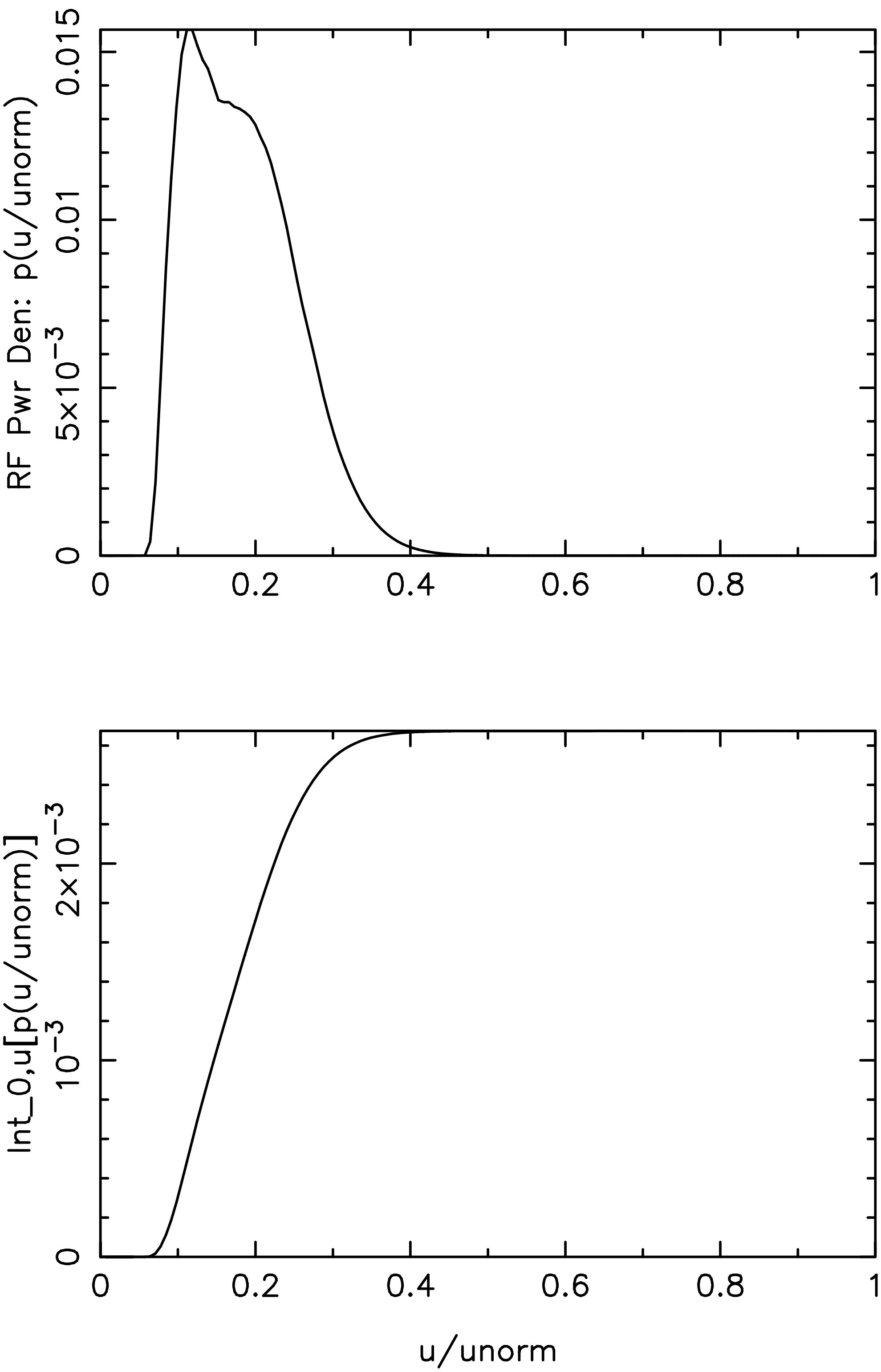
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 5.6183E−01 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 5.2274E−02 A/W
Electron current (units ne*q*vth(kelec,lr_)) = 9.0253E−06
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 2.0383E−06
efficiency (j/p) (Fisch 1978 units) = 4.4279E+00
efficiency (j/p) (e/(m*c*nu_c units) = 2.0616E−01
vth(kelec,lr_) = sqrt(T/m) = 6.4689E+09 cm/sec
nu0 = 5.7267E+03 Hz

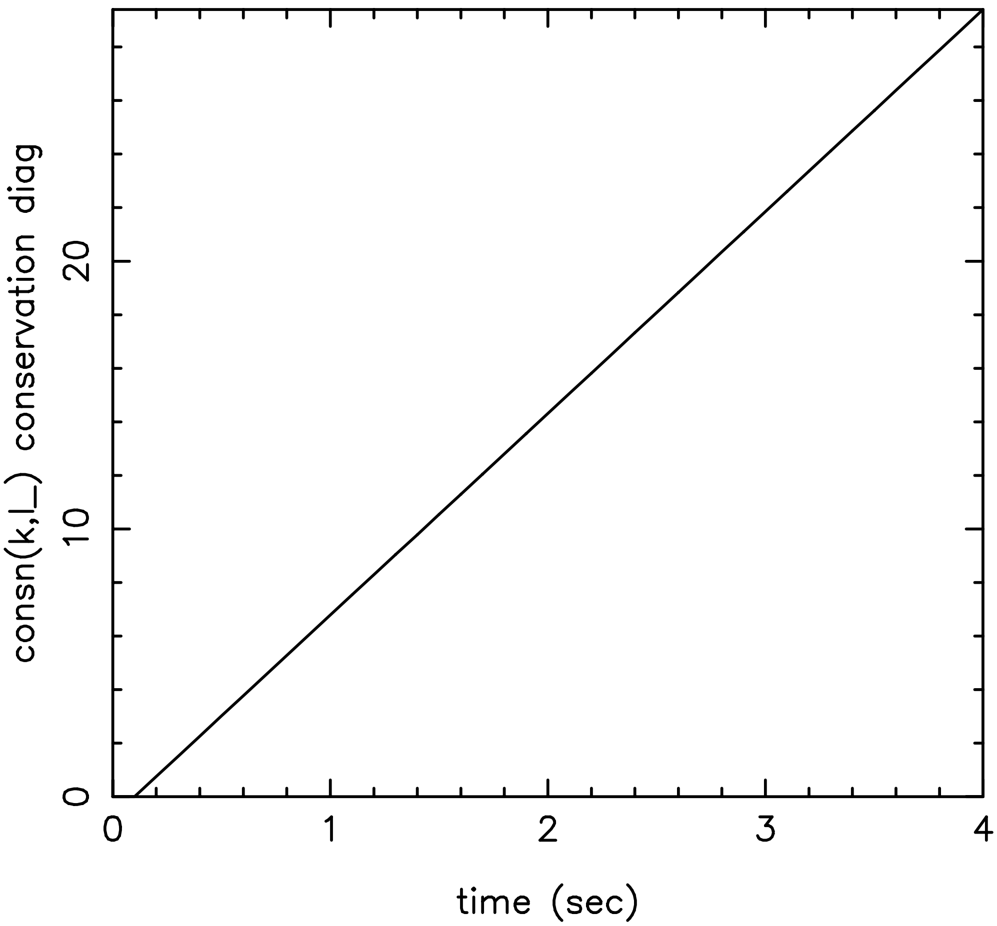
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.5600E+00 Amps/cm^2

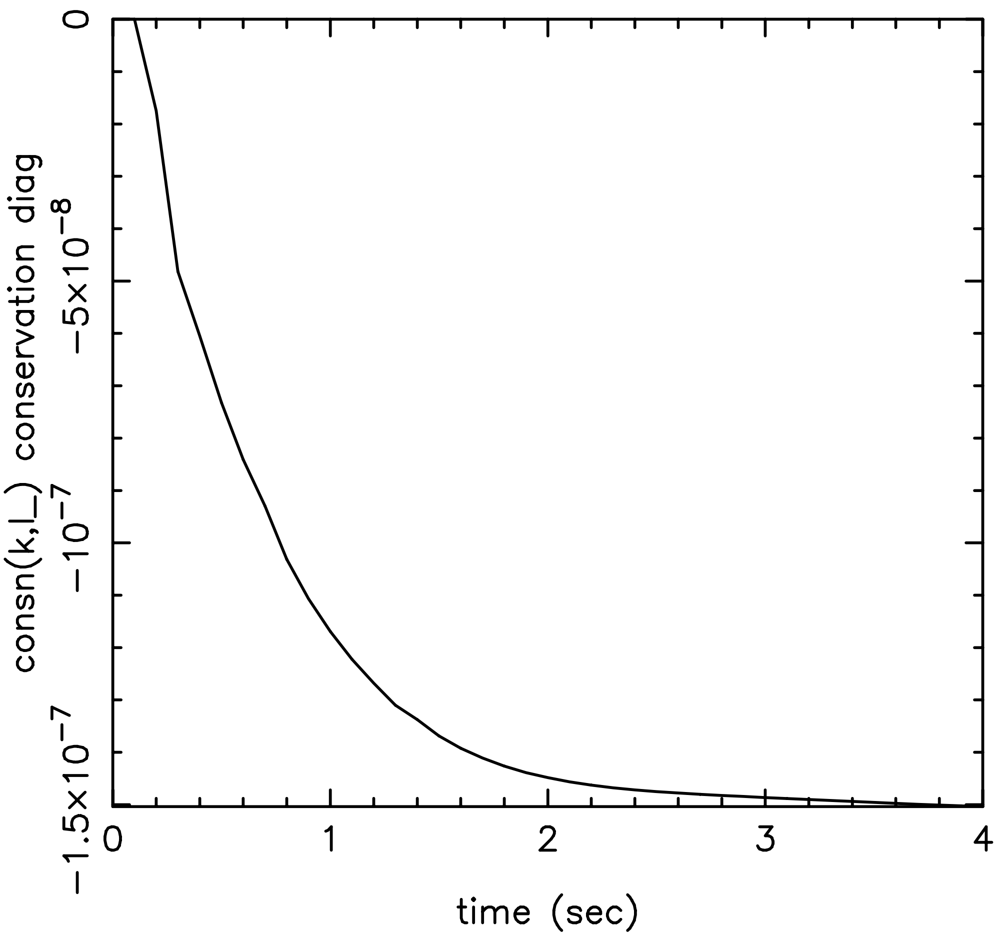


Species: 2 Power =0.2675E-02 Watts/cc



consn(k,l_)= 2.9397E+01
Perfect conservation should yield machine accuracy,
or about 1.e−14:

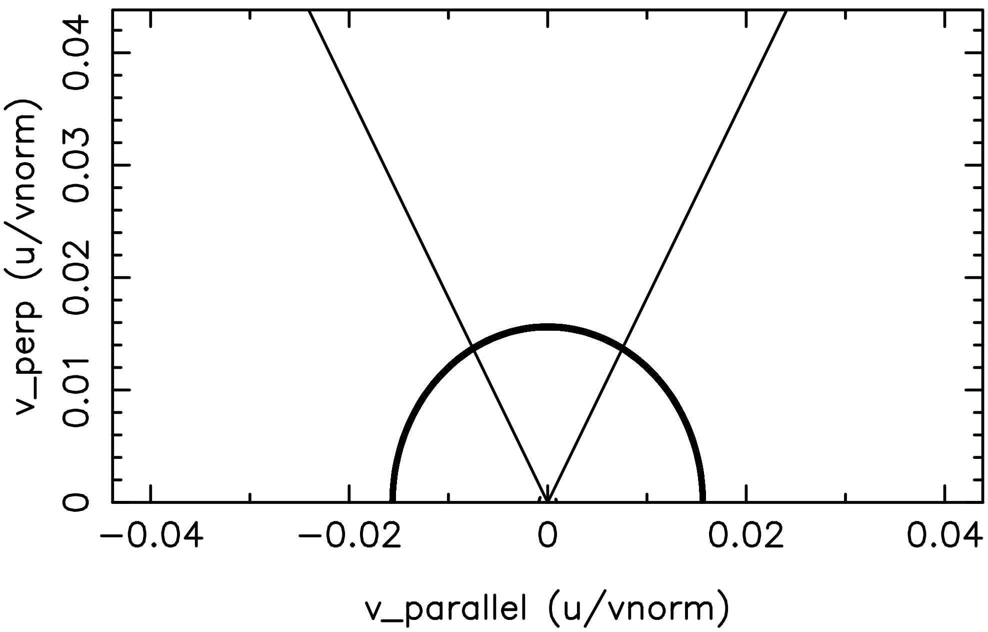
time step (n) is 40 time= 4.0000E+00 secs Species k= 1
r/a= 4.0000E−01 radial position (r) = 7.3872E+02 cm



consn(k,l_)= −1.5039E−07
Perfect conservation should yield machine accuracy,
or about 1.e−14:

time step (n) is 40 time= 4.0000E+00 secs Species k= 2
r/a= 4.0000E−01 radial position (r) = 7.3872E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 40 time= 4.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

NBI source rate= 0.0000E+00 ptcls/cc/sec

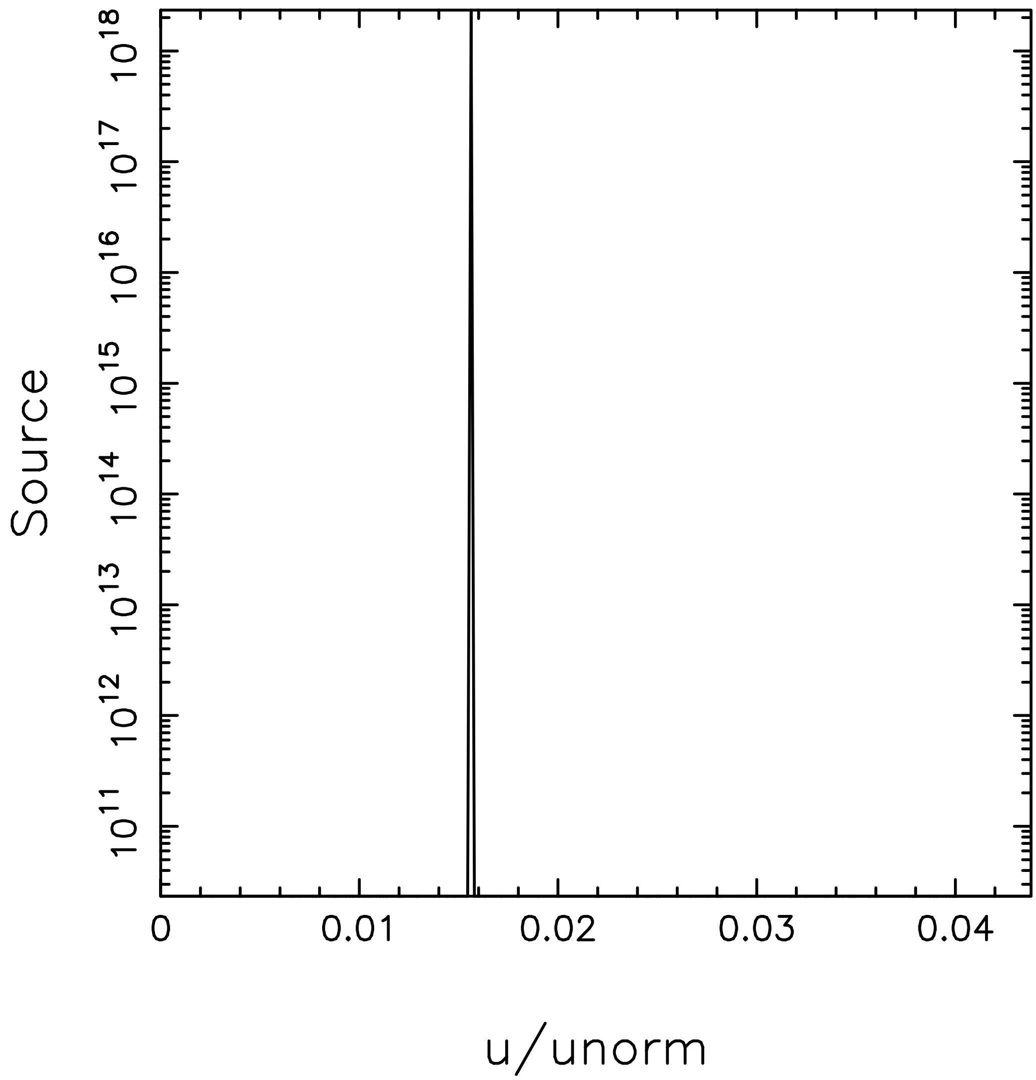
FUS source rate= 3.0937E+11 ptcls/cc/sec

Total source power [entr(..5..)]= 1.7447E−01 W/cc

Contour values:

1.2004E+06	4.7791E+06	1.9026E+07	7.5743E+07
3.0154E+08	1.2004E+09	4.7791E+09	1.9026E+10
7.5743E+10	3.0154E+11	1.2004E+12	4.7791E+12
1.9026E+13	7.5743E+13	3.0154E+14	1.2004E+15
4.7791E+15	1.9026E+16	7.5743E+16	3.0154E+17

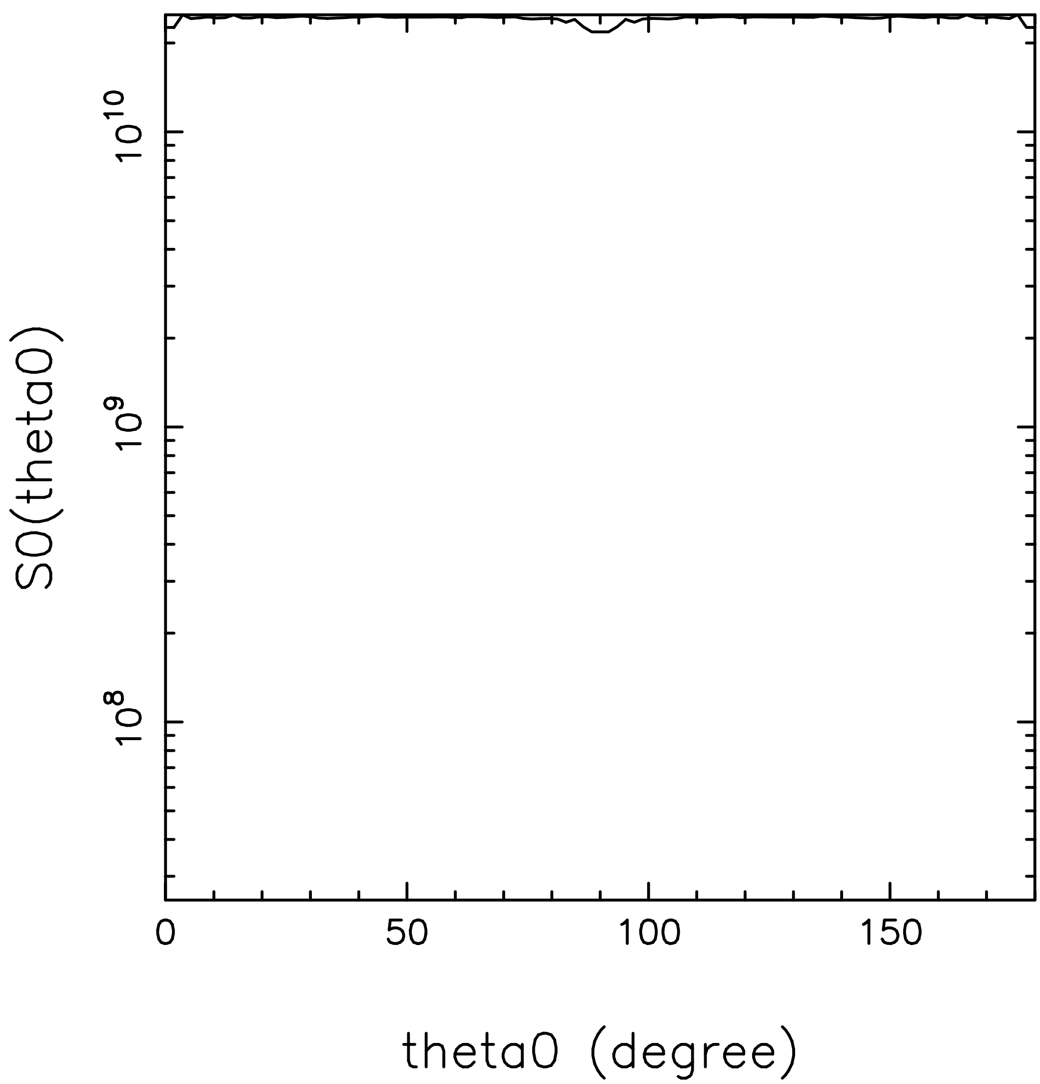
Pitch Angle Avg Source vs. u



Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm=   8.3424E+10 cm/s

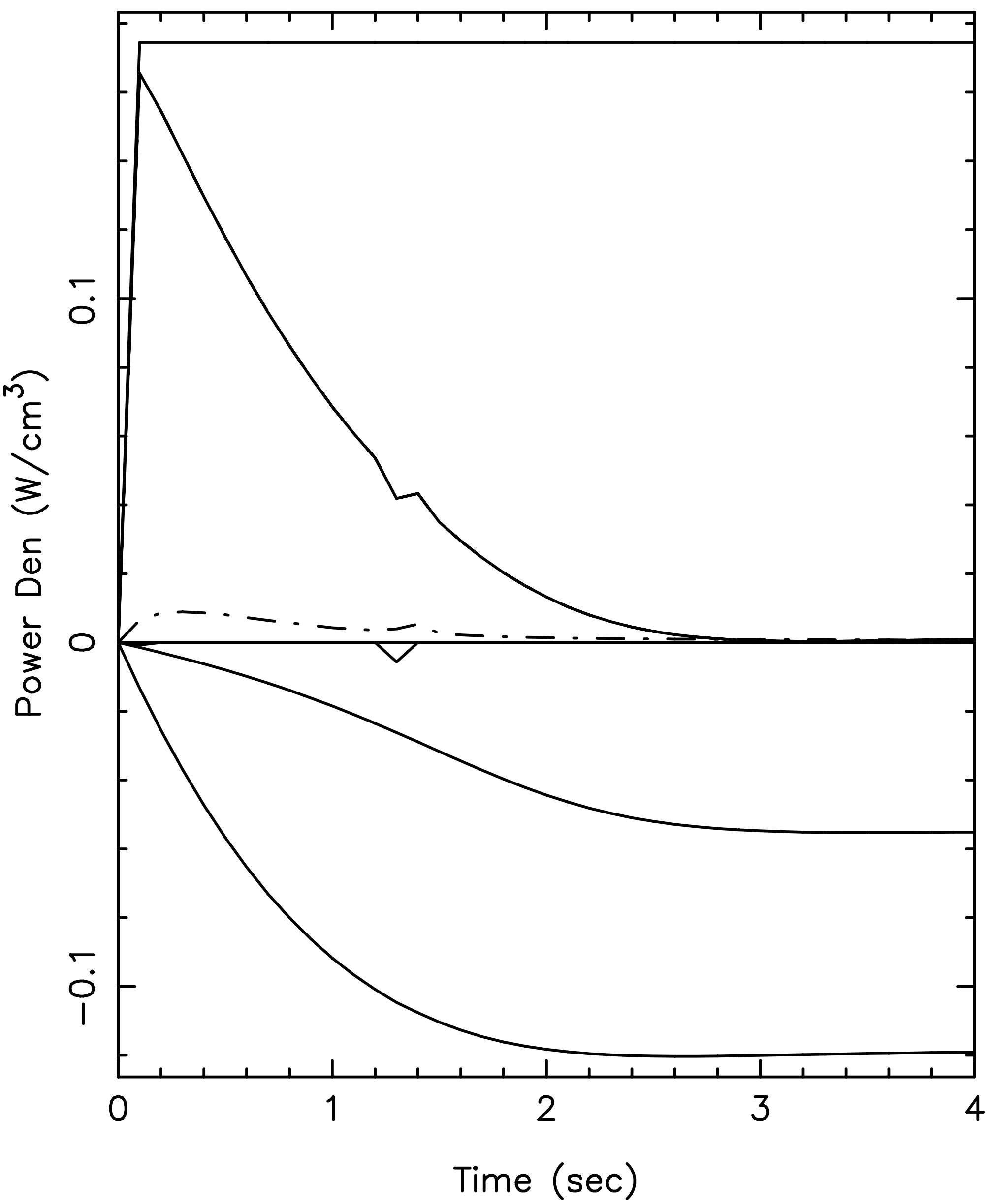
time step (n) is 40   time= 4.0000E+00 secs
r/a= 4.0000E-01   radial position (r) = 7.3872E+02 cm

v–integrated Source

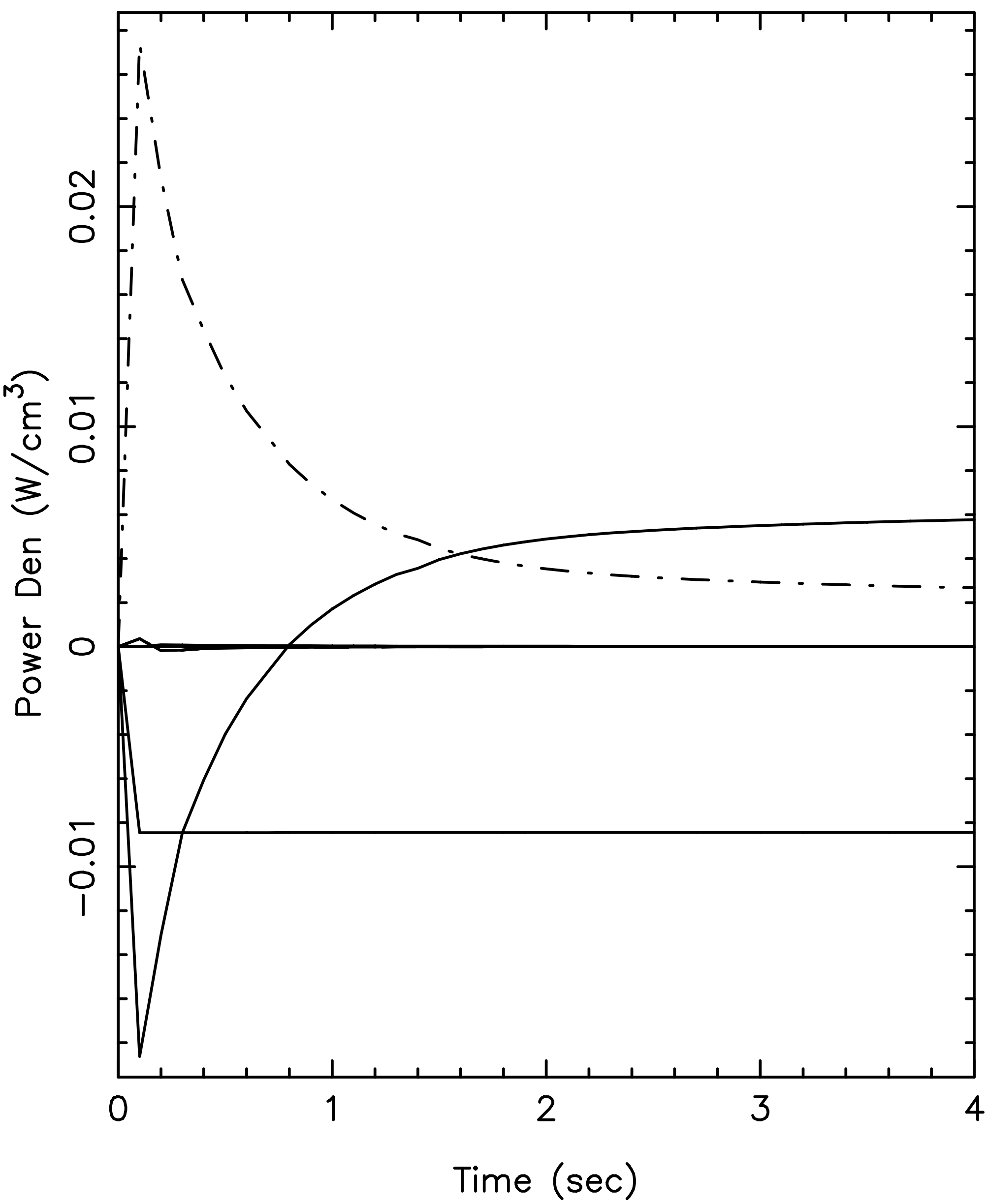


Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 40 time= 4.0000E+00 secs
r/a= 4.0000E–01 radial position (r) = 7.3872E+02 cm

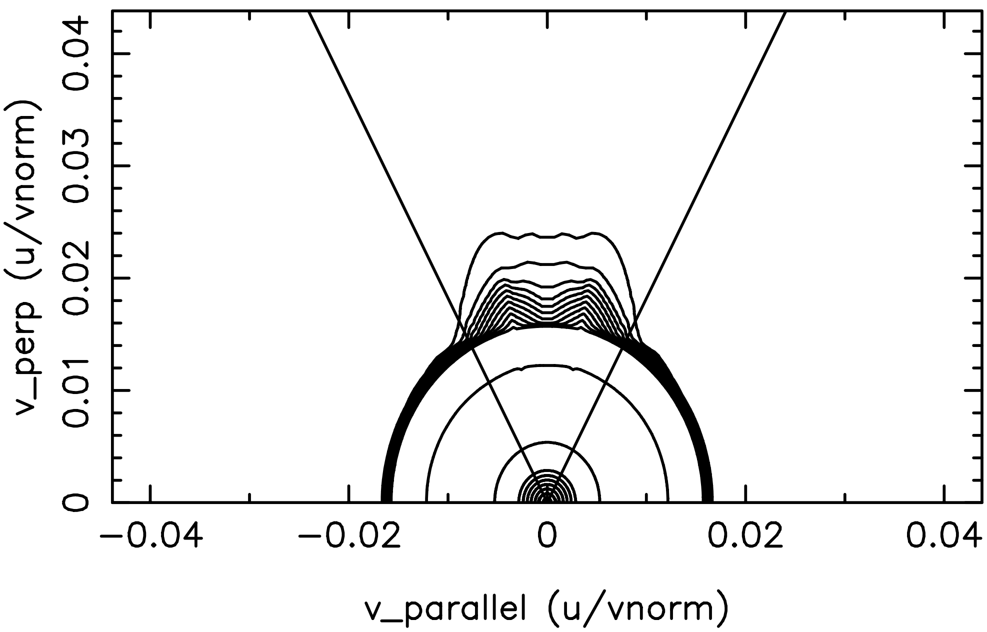


Species k= 1   Final powers in Watts/cc are:
sum over all comp= 9.34E−04   From df/dt : 9.34E−04
collisional transfer from Maxwellian elec.= −1.19E−01
collisional transfer from Maxwellian ions= −5.51E−02
collisional transfer from gens.= 0.00E+00
ohmic drive= 0.00E+00
RF drive= 6.80E−04
particle sources= 1.74E−01
loss−lossmode(k)= 3.09E−18   losses−torloss(k)= −1.53E−91
losses due to runaway= 0.00E+00
setting neg f to zero= 1.49E−21
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00



Species k= 2   Final powers in Watts/cc are:
sum over all comp= −6.26E−07   From df/dt : −6.26E−07
collisional transfer from Maxwellian elec.= 5.77E−03
collisional transfer from Maxwellian ions= −8.45E−03
collisional transfer from gens.= 8.29E−06
ohmic drive= 0.00E+00
RF drive= 2.67E−03
particle sources= 0.00E+00
loss−lossmode(k)= 0.00E+00   losses−torloss(k)= −3.63E−91
losses due to runaway= 0.00E+00
setting neg f to zero= 0.00E+00
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00

Species 1 Distribution Function Contour Plot

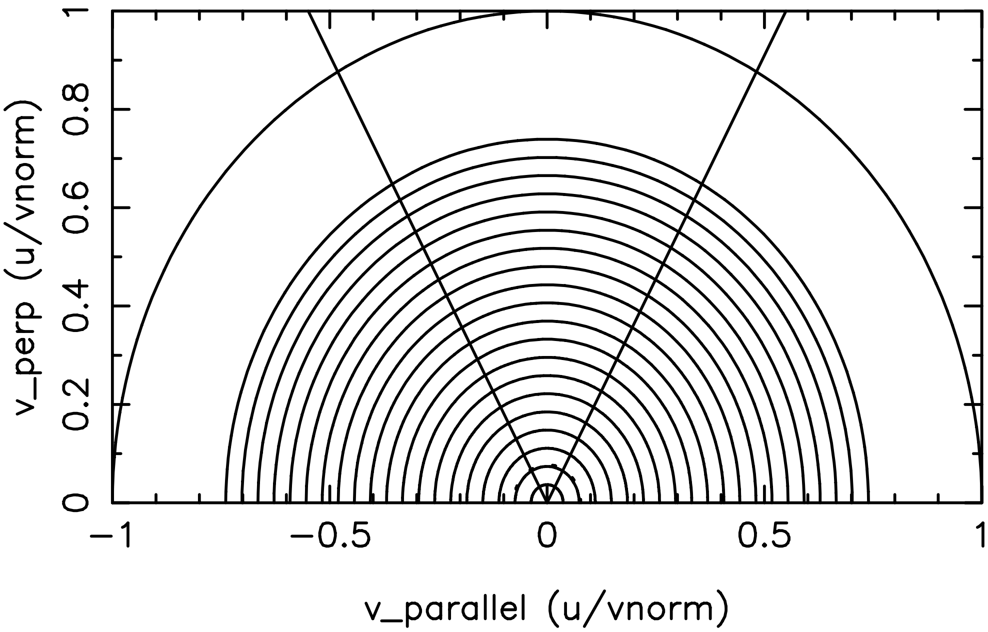


time step n= 40 time= 4.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contour values:

5.247046E+19	3.785316E+19	2.218173E+19	1.070028E+19
4.319626E+18	1.485809E+18	4.434620E+17	1.168718E+17
2.763859E+16	5.950391E+15	1.181173E+15	2.185764E+14
3.806528E+13	6.289378E+12	9.927473E+11	1.505832E+11
2.205959E+10	3.134432E+09	4.335596E+08	5.856368E+07

Species 2 Distribution Function Contour Plot



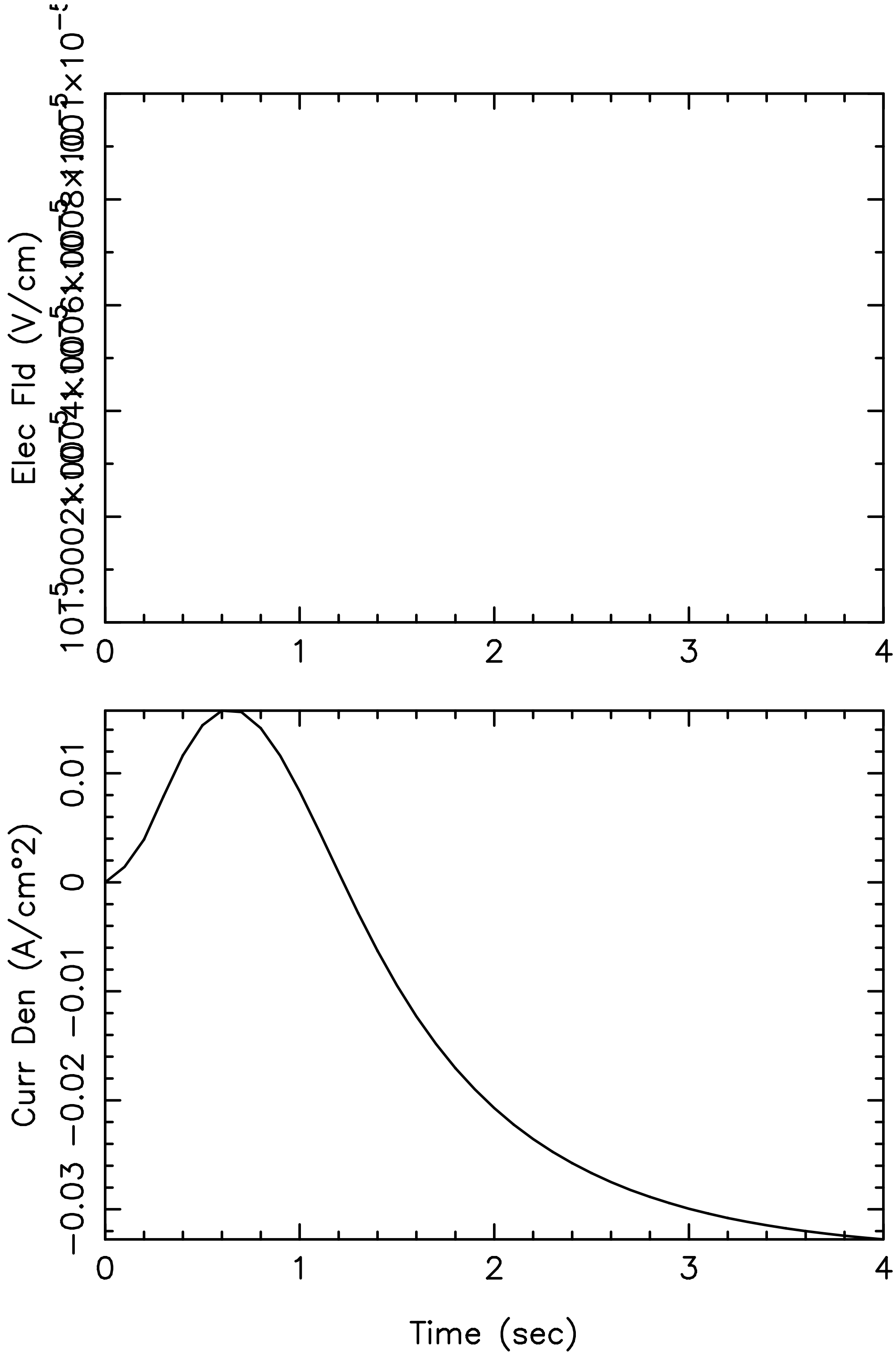
time step n= 40 time= 4.00E+00 secs
r/a= 4.00E−01 radial position (r) = 1.02E+02 cm
rya= 4.000E−01 R=rpcon= 7.387E+02 cm, Surf# 16

Contour values:

6.670850E+15	4.766501E+15	2.752628E+15	1.304313E+15
5.165000E+14	1.743388E+14	5.115532E+13	1.329241E+13
3.110454E+12	6.652496E+11	1.317223E+11	2.441274E+10
4.274710E+09	7.127784E+08	1.139336E+08	1.755655E+07
2.620482E+06	3.803873E+05	5.388400E+04	7.470495E+03

LOCAL RADIAL QUANTITIES

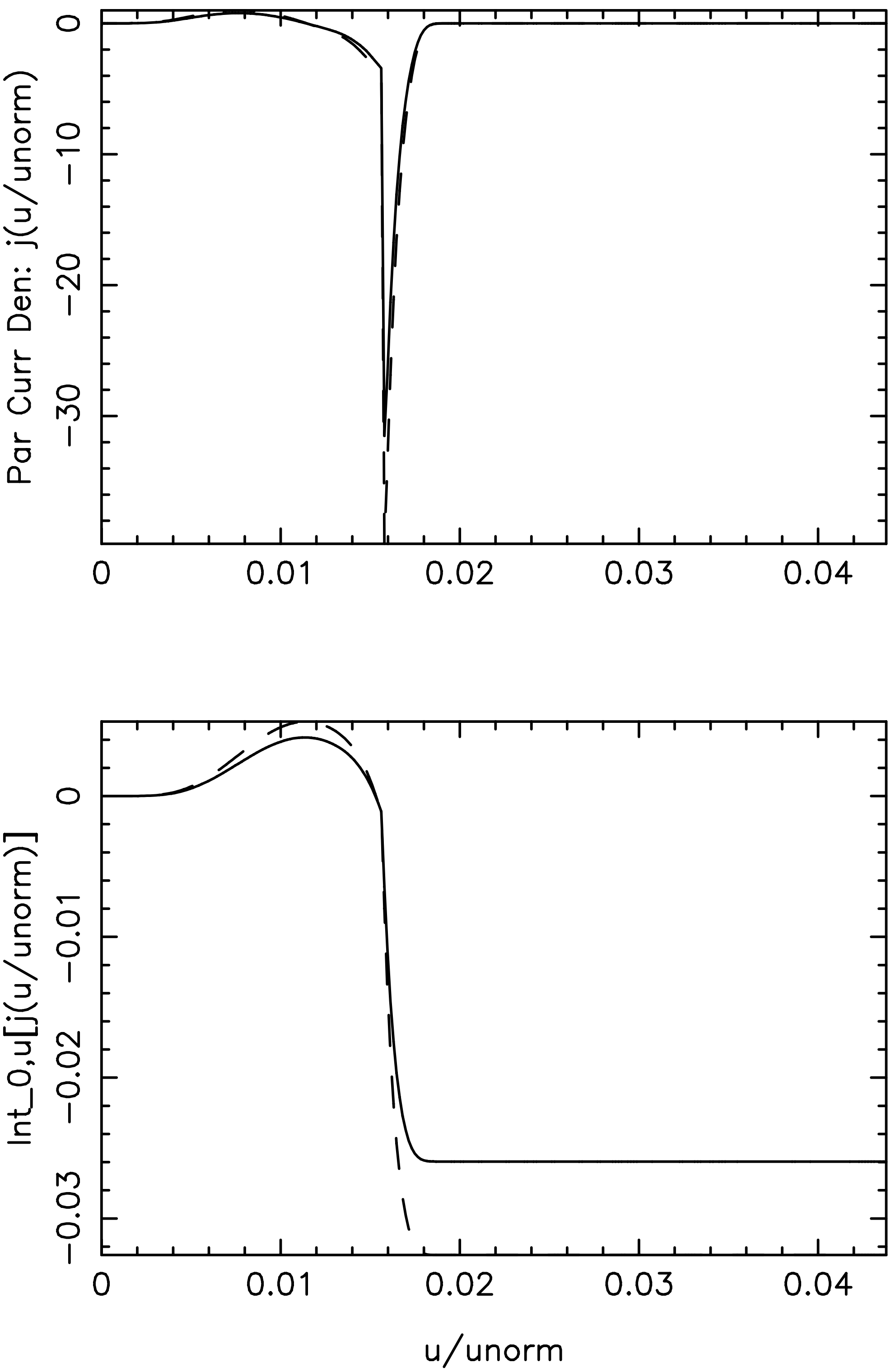
time step n= 40, time= 4.0000E+00 secs
flux surf= 24 total flux surfs= 38
r/a= 6.00E−01 radial position (r) = 1.53E+02 cms
rya= 6.000E−01 R=rpcon= 7.717E+02 cm
enorm (kev) = 1000.000
vnorm/c = 2.78273
vthe (sqrt(te/me))/c = 0.15491
vthe/vnorm = 0.05567
k= 1 vth(k)/vnorm = 0.00062
k= 2 vth(k)/vnorm = 0.05567
k= 3 vth(k)/vnorm = 0.00062
k= 4 vth(k)/vnorm = 0.00087
k= 5 vth(k)/vnorm = 0.00071
k= 6 vth(k)/vnorm = 0.00041
k= 7 vth(k)/vnorm = 0.00020
k= 8 vth(k)/vnorm = 0.05567



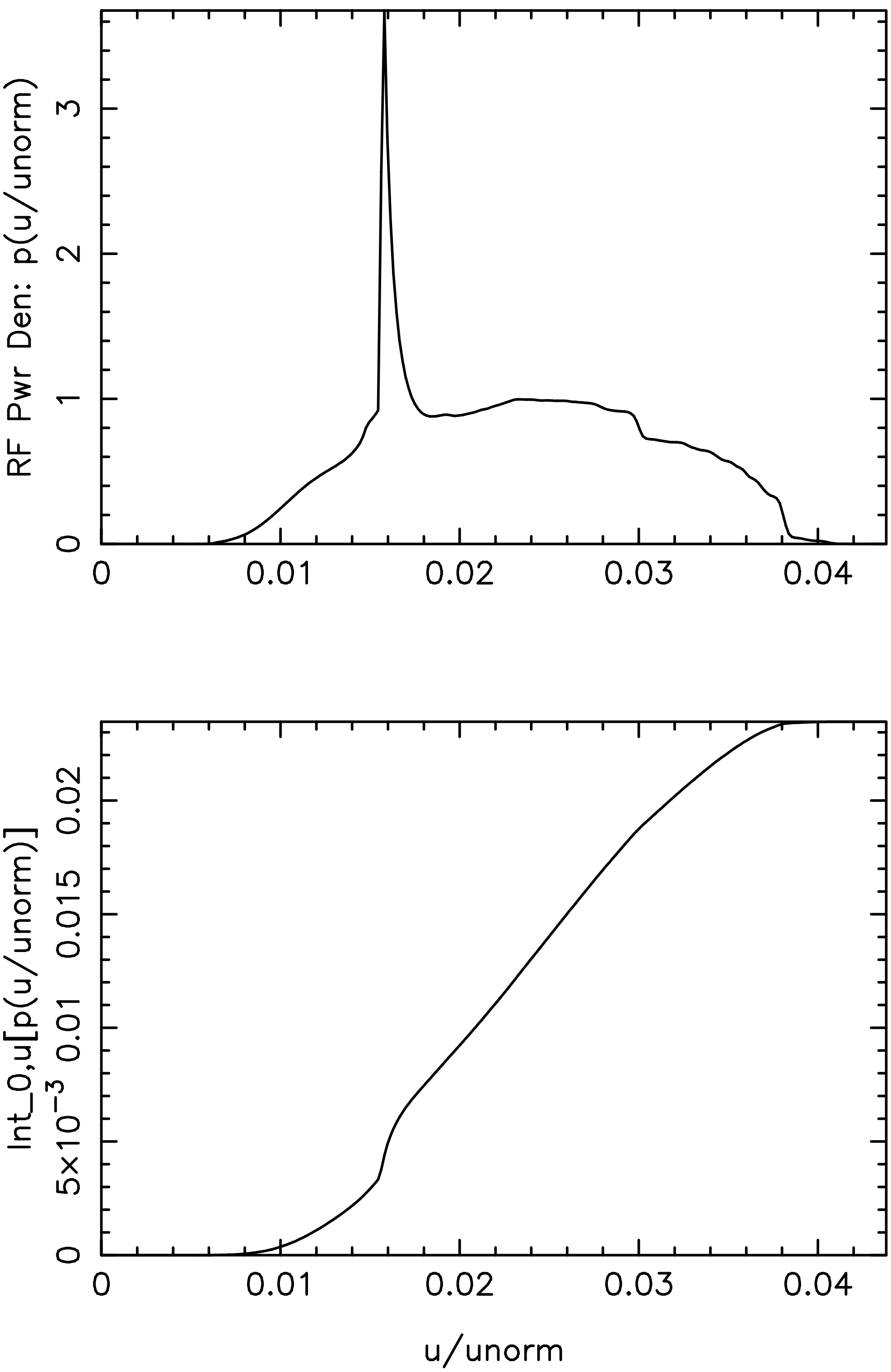
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = −3.2755E−02 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = −3.6081E−04 A/W

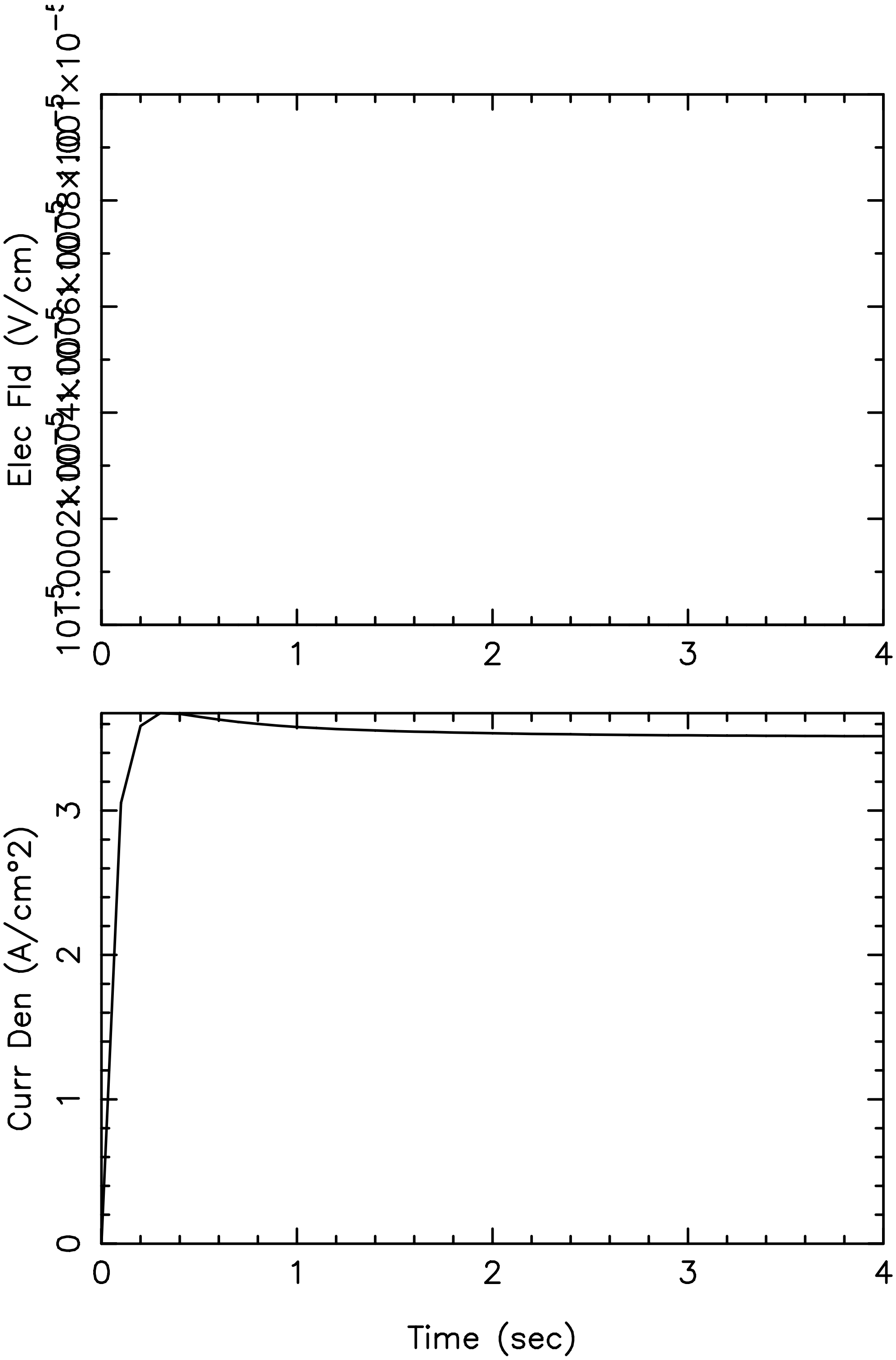
Solid: midplane; Dashed: <..>_FSA



Species: 1 Current(FSA)=−.3260E−01 Amps/cm^2



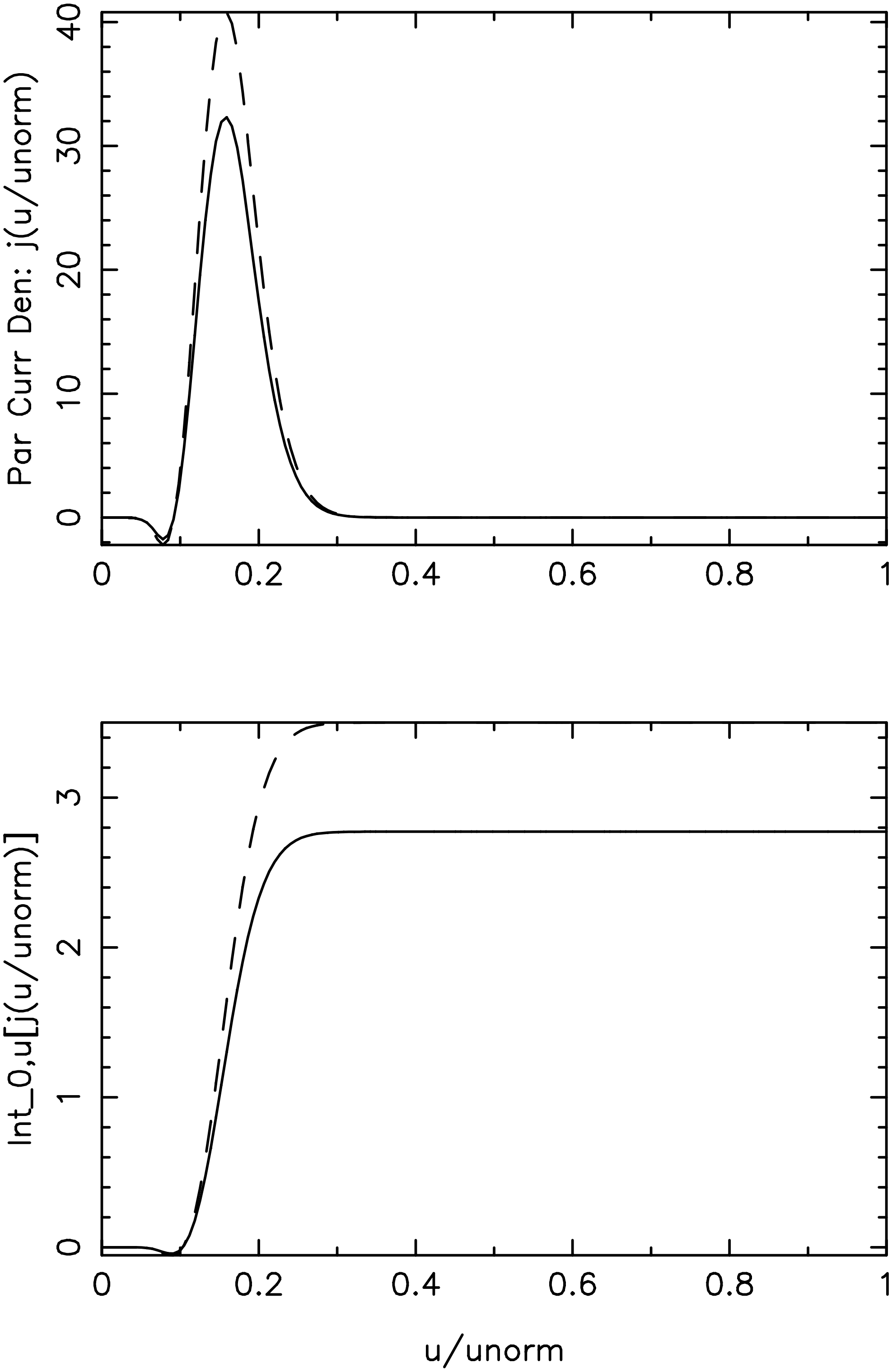
Species: 1 Power =0.2347E-01 Watts/cc



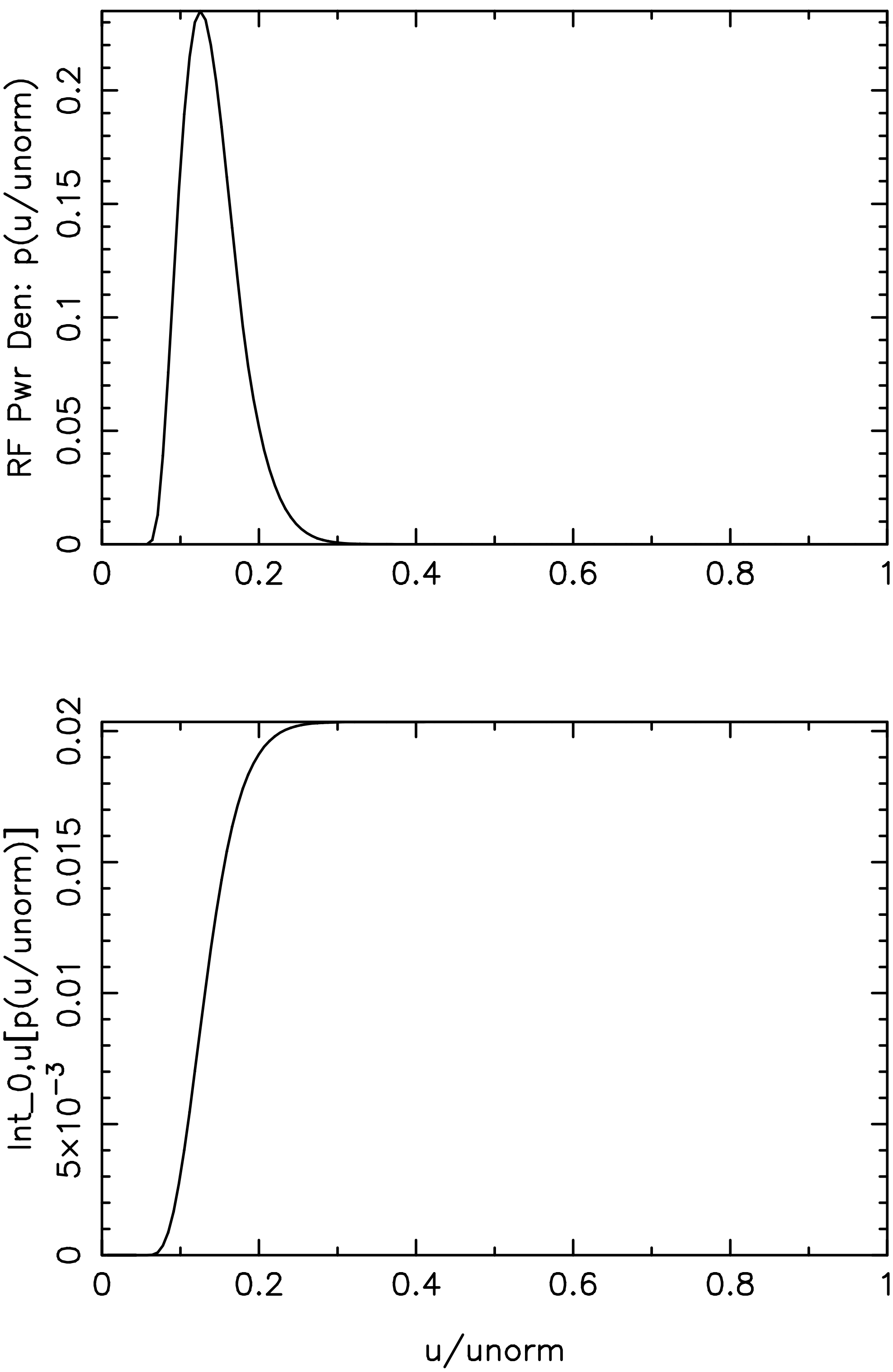
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 3.5157E+00 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 4.4665E−02 A/W
Electron current (units ne*q*vth(kelec,lr_)) = 7.8911E−05
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 1.1200E−05
efficiency (j/p) (Fisch 1978 units) = 7.0455E+00
efficiency (j/p) (e/(m*c*nu_c units) = 1.6907E−01
vth(kelec,lr_) = sqrt(T/m) = 4.6440E+09 cm/sec
nu0 = 1.5430E+04 Hz

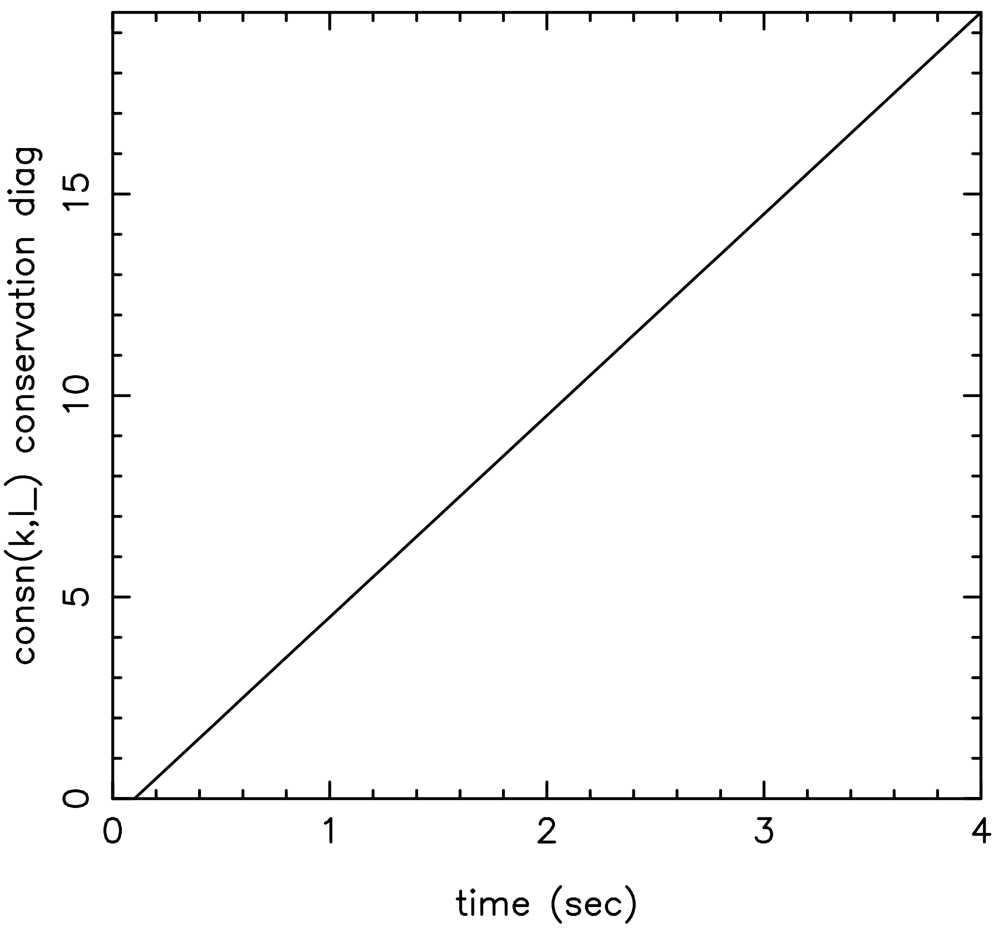
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.3501E+01 Amps/cm^2

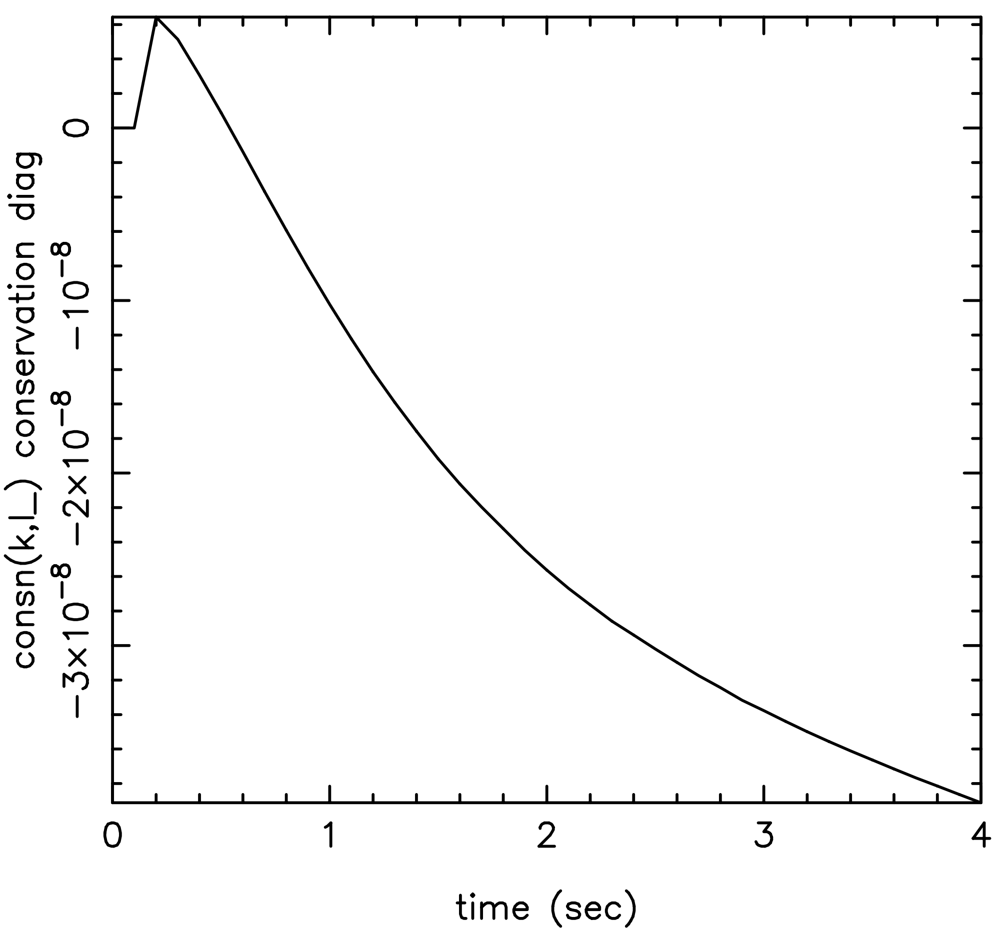


Species: 2 Power =0.2035E-01 Watts/cc



consn(k,l_)= 1.9506E+01
Perfect conservation should yield machine accuracy,
or about 1.e−14:

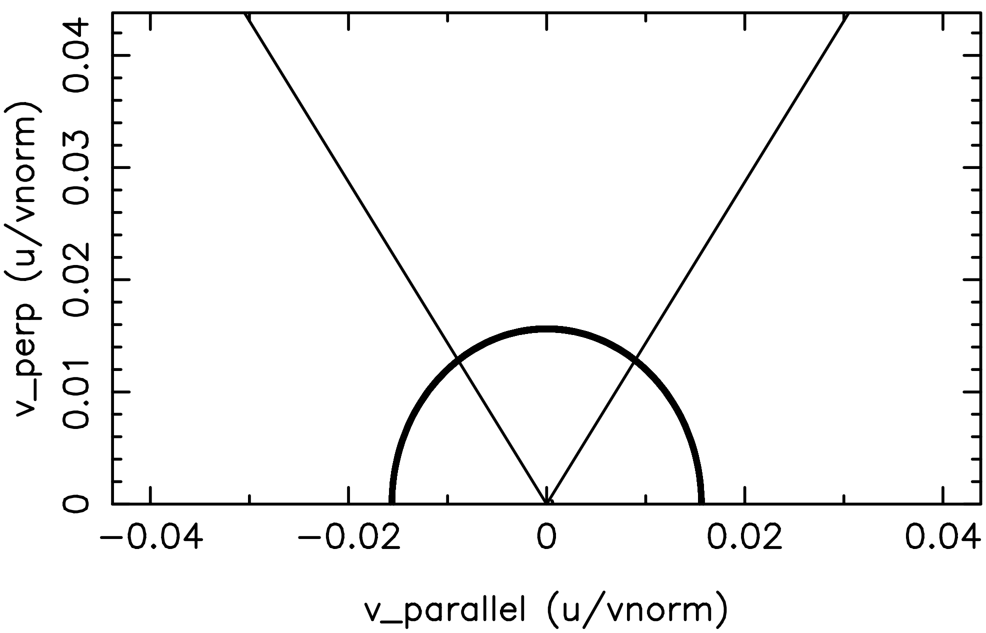
time step (n) is 40   time= 4.0000E+00 secs   Species k= 1
r/a= 6.0000E−01   radial position (r) = 7.7171E+02 cm



consn(k,l_)= −3.9117E−08
Perfect conservation should yield machine accuracy,
or about 1.e−14:

time step (n) is 40 time= 4.0000E+00 secs Species k= 2
r/a= 6.0000E−01 radial position (r) = 7.7171E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 40 time= 4.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

NBI source rate= 0.0000E+00 ptcls/cc/sec

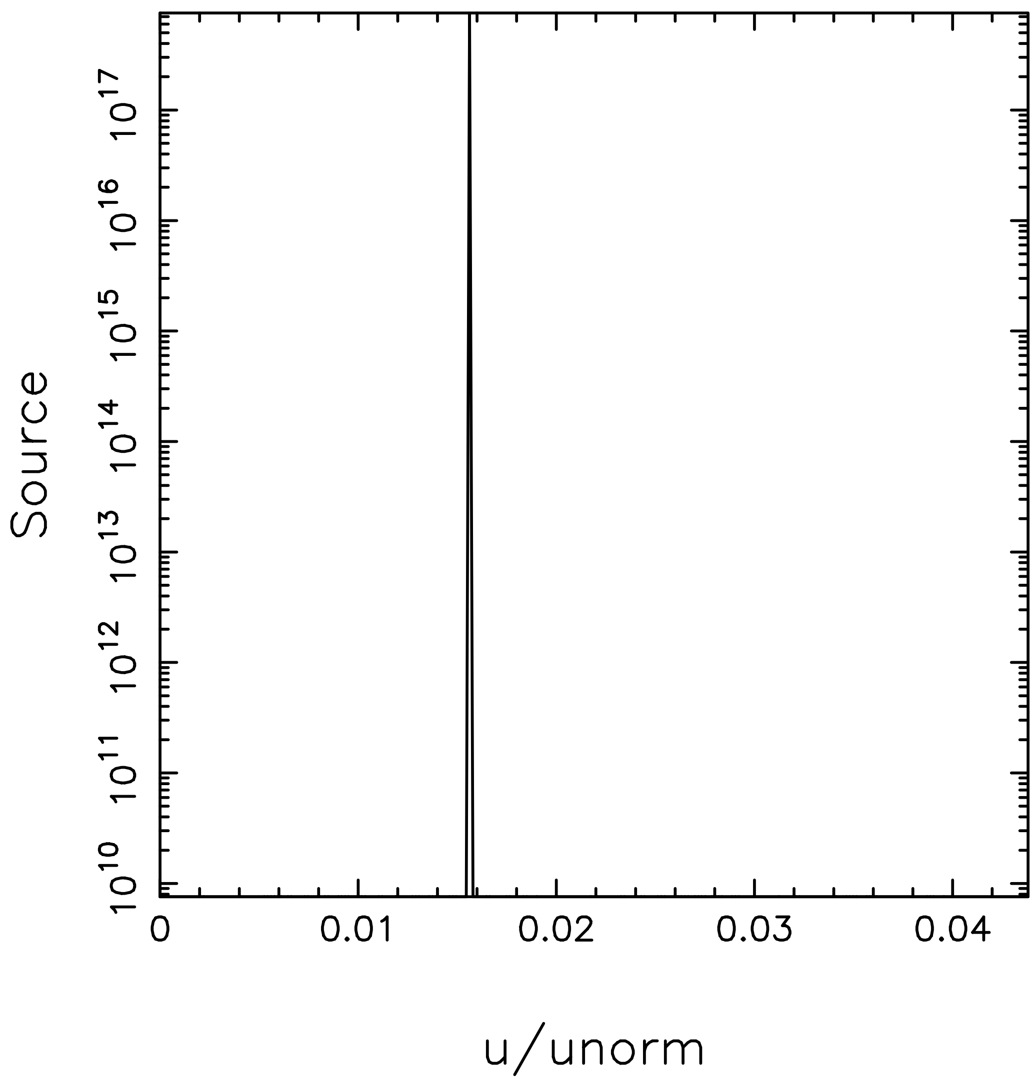
FUS source rate= 1.0095E+11 ptcls/cc/sec

Total source power [entr(..5..)]= 5.6934E−02 W/cc

Contour values:

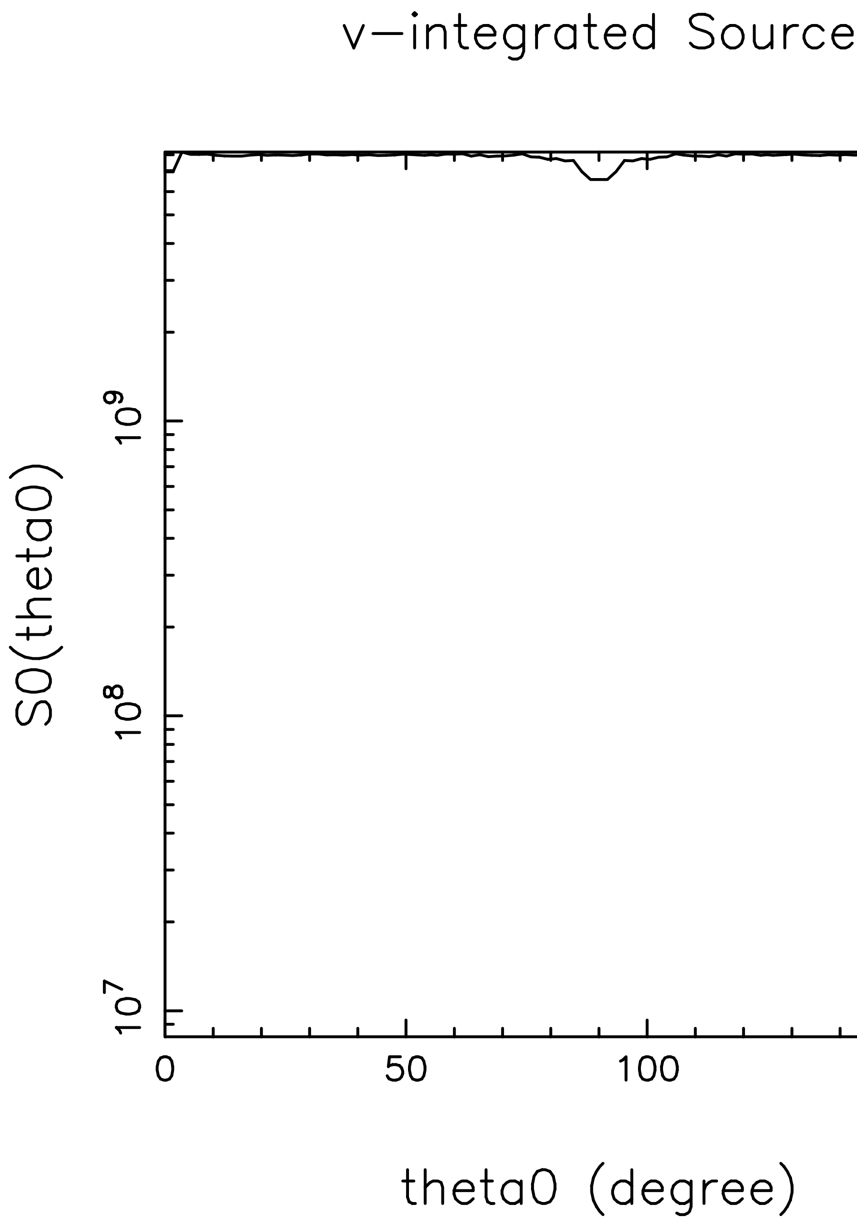
3.9310E+05	1.5650E+06	6.2302E+06	2.4803E+07
9.8743E+07	3.9310E+08	1.5650E+09	6.2302E+09
2.4803E+10	9.8743E+10	3.9310E+11	1.5650E+12
6.2302E+12	2.4803E+13	9.8743E+13	3.9310E+14
1.5650E+15	6.2302E+15	2.4803E+16	9.8743E+16

Pitch Angle Avg Source vs. u



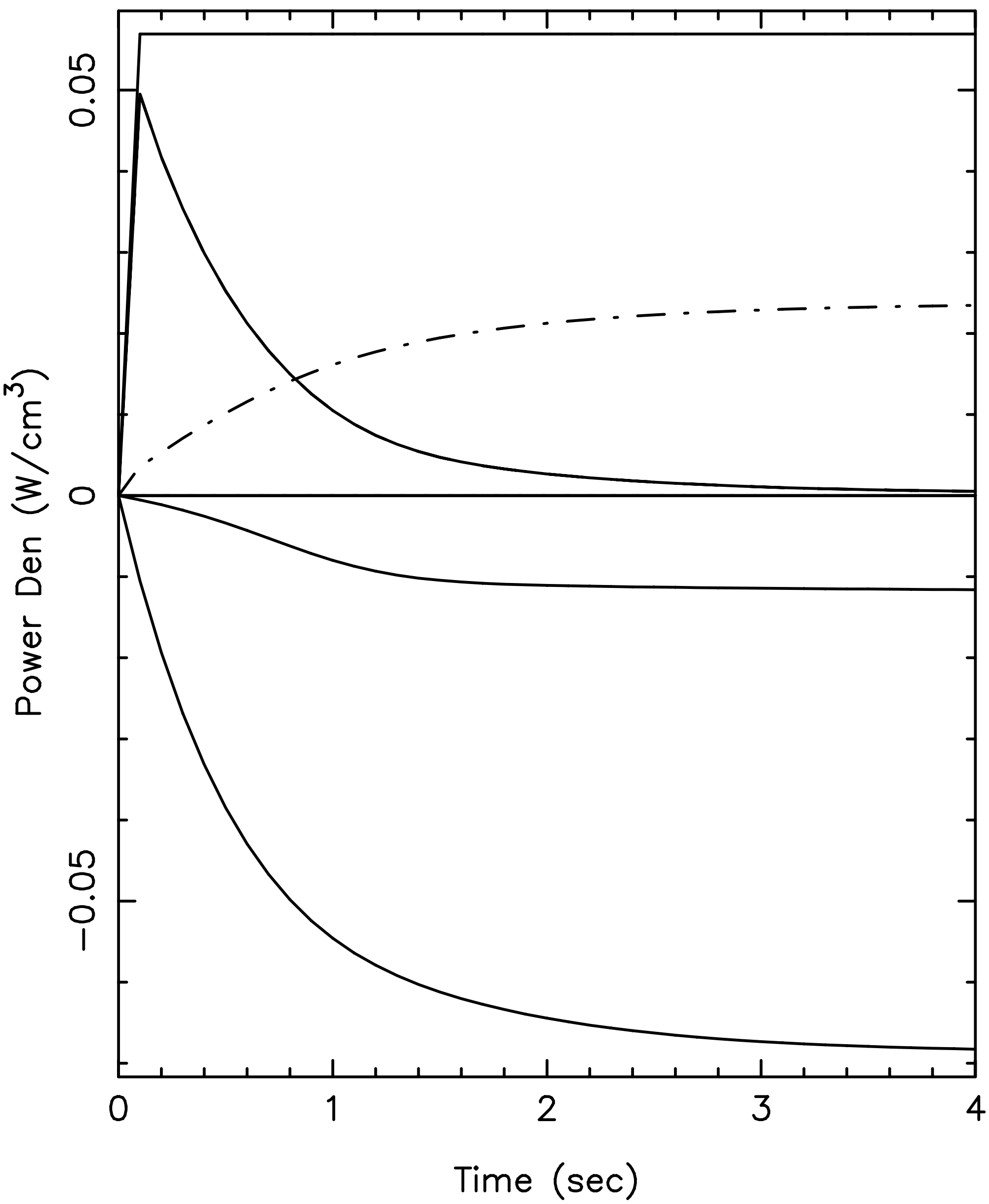
Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm= 8.3424E+10 cm/s

time step (n) is 40 time= 4.0000E+00 secs
r/a= 6.0000E-01 radial position (r) = 7.7171E+02 cm

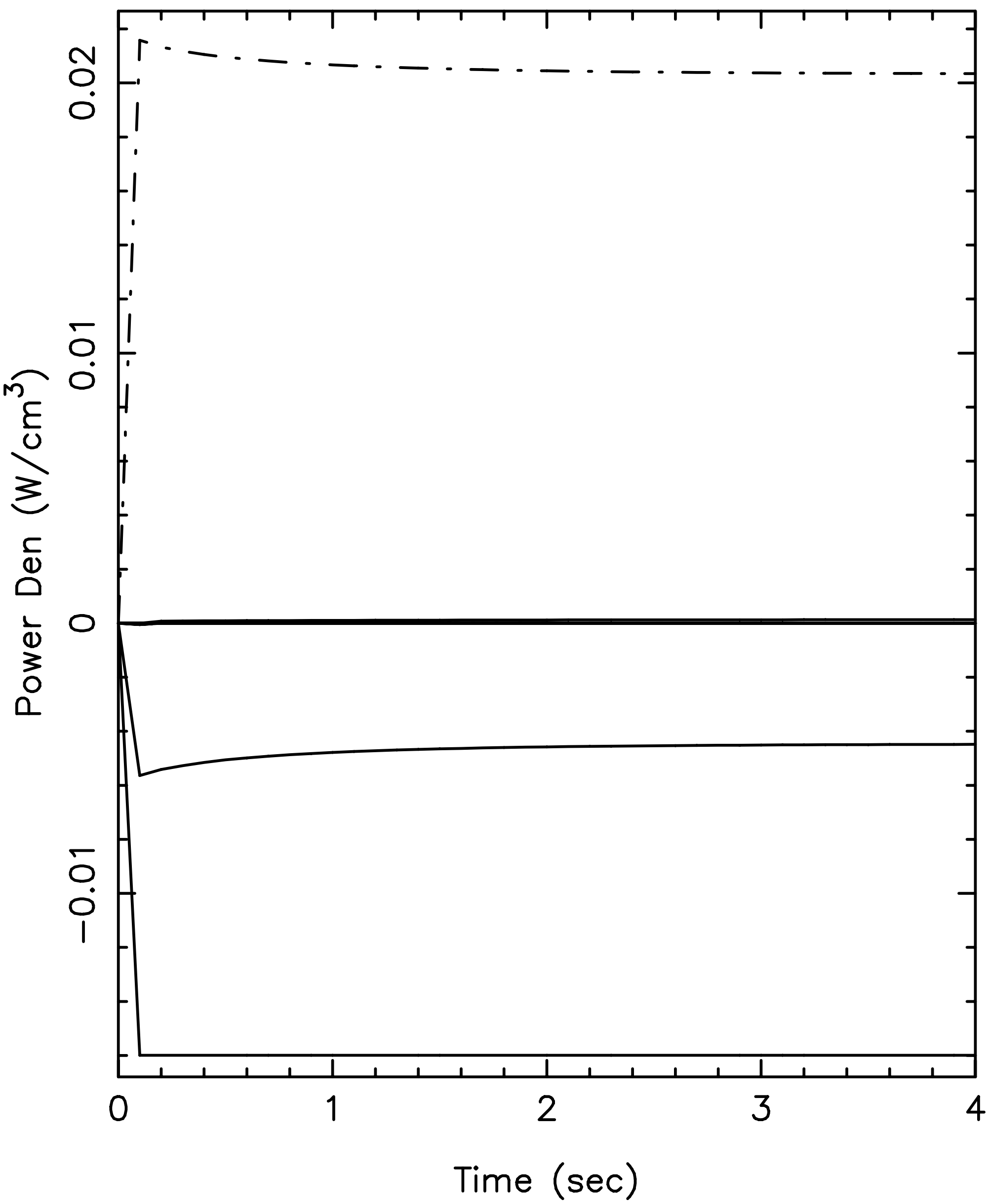


Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 40 time= 4.0000E+00 secs
r/a= 6.0000E−01 radial position (r) = 7.7171E+02 cm

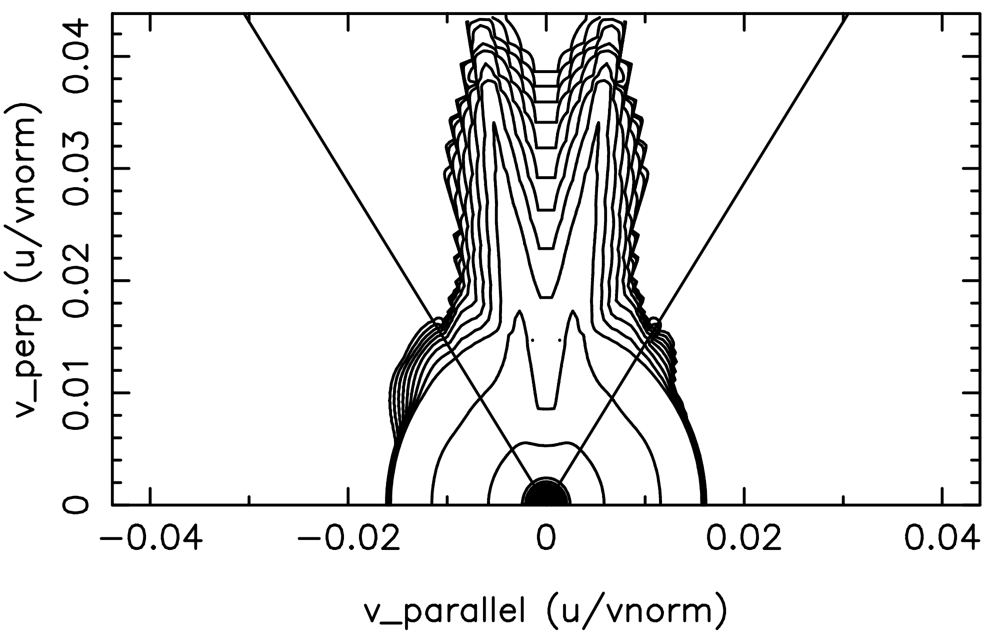


Species k= 1   Final powers in Watts/cc are:
sum over all comp= 5.35E−04   From df/dt : 5.35E−04
collisional transfer from Maxwellian elec.= −6.83E−02
collisional transfer from Maxwellian ions= −1.16E−02
collisional transfer from gens.= 0.00E+00
ohmic drive= 0.00E+00
RF drive= 2.35E−02
particle sources= 5.69E−02
loss−lossmode(k)= 2.12E−12   losses−torloss(k)= −3.33E−92
losses due to runaway= 0.00E+00
setting neg f to zero= 1.04E−06
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00



Species k= 2   Final powers in Watts/cc are:
sum over all comp= −3.46E−08   From df/dt : −3.47E−08
collisional transfer from Maxwellian elec.= −4.48E−03
collisional transfer from Maxwellian ions= −1.60E−02
collisional transfer from gens.= 1.31E−04
ohmic drive= 0.00E+00
RF drive= 2.03E−02
particle sources= 0.00E+00
loss−lossmode(k)= 0.00E+00   losses−torloss(k)= −1.82E−91
losses due to runaway= 0.00E+00
setting neg f to zero= 0.00E+00
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00

Species 1 Distribution Function Contour Plot

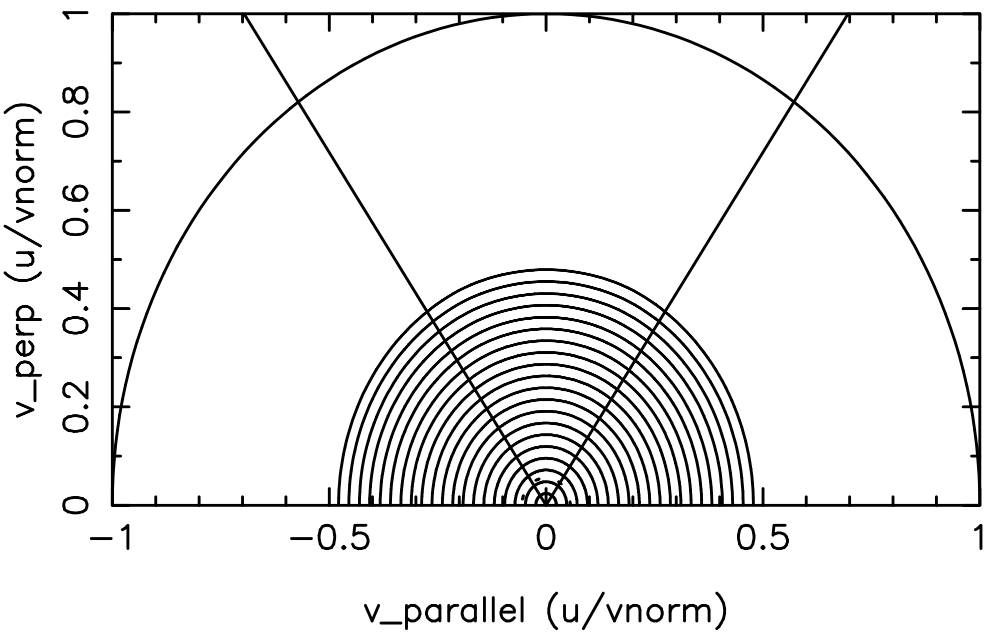


time step n= 40 time= 4.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contour values:

7.252440E+19	5.548997E+19	3.563682E+19	1.930424E+19
8.877231E+18	3.492400E+18	1.185618E+18	3.505483E+17
9.113057E+16	2.102962E+16	4.348140E+15	8.127928E+14
1.385342E+14	2.170193E+13	3.147879E+12	4.256732E+11
5.399878E+10	6.462660E+09	7.335038E+08	7.932133E+07

Species 2 Distribution Function Contour Plot



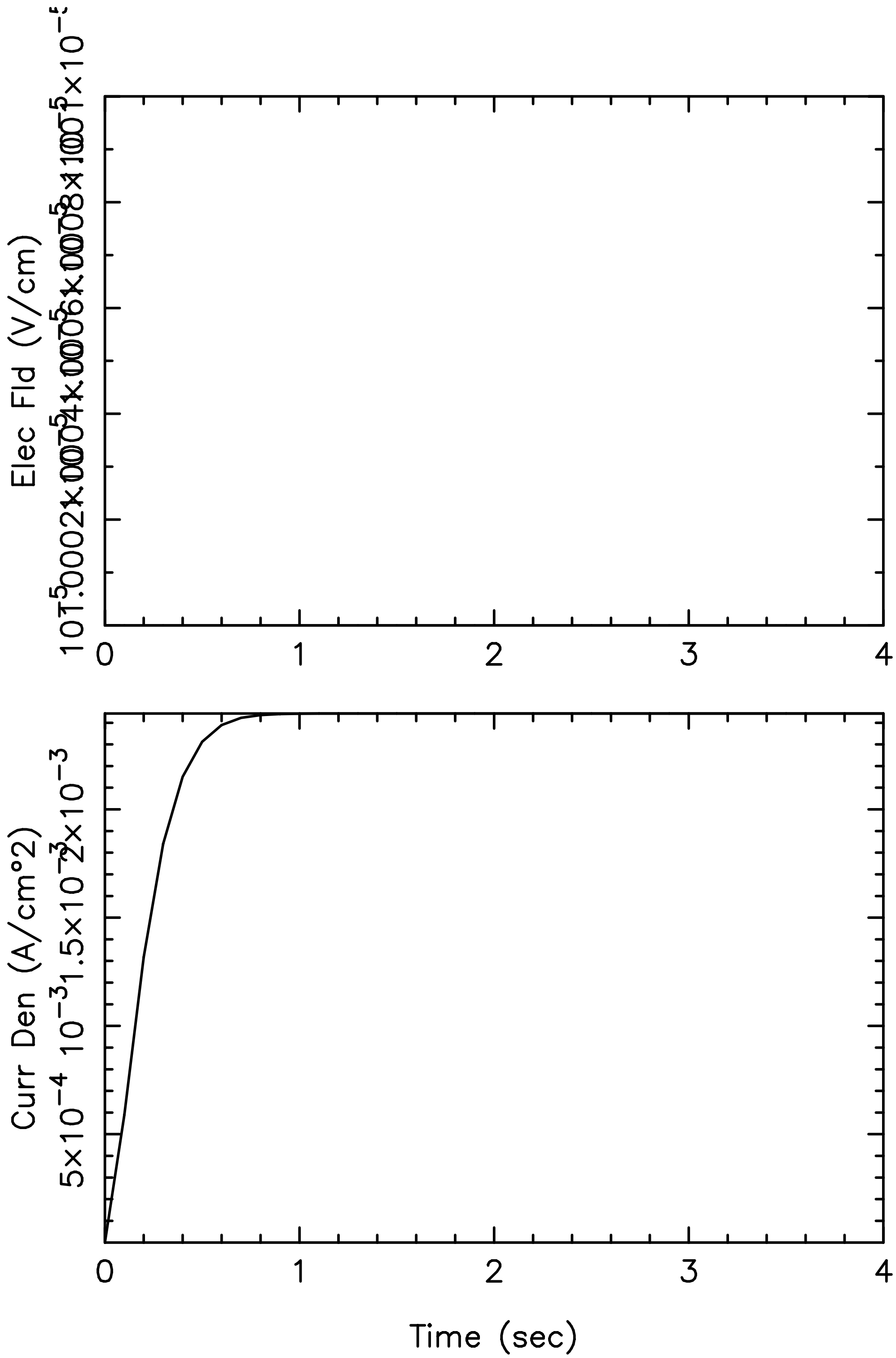
time step n= 40 time= 4.00E+00 secs
r/a= 6.00E−01 radial position (r) = 1.53E+02 cm
rya= 6.000E−01 R=rpcon= 7.717E+02 cm, Surf# 24

Contour values:

1.913658E+16	1.454395E+16	9.241792E+15	4.937853E+15
2.234870E+15	8.644078E+14	2.885151E+14	8.395888E+13
2.152557E+13	4.912715E+12	1.008104E+12	1.877683E+11
3.202758E+10	5.043980E+09	7.389850E+08	1.014108E+08
1.311634E+07	1.607864E+06	1.877499E+05	2.097810E+04

LOCAL RADIAL QUANTITIES

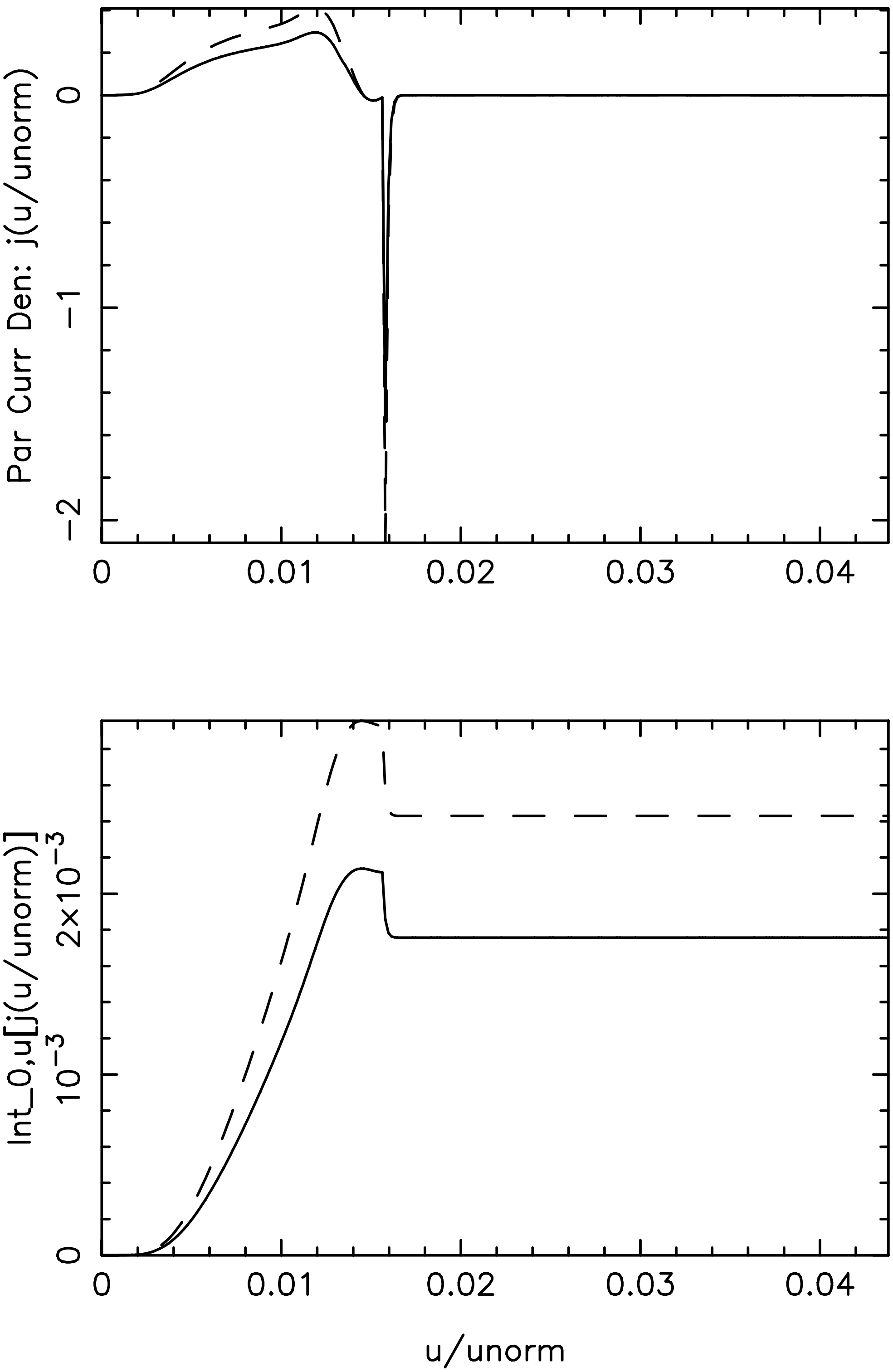
time step n= 40,   time= 4.0000E+00 secs
flux surf= 32   total flux surfs= 38
r/a= 8.00E-01   radial position (r) = 2.04E+02 cms
rya= 8.000E-01   R=rpcon= 7.981E+02 cm
enorm (kev) =   1000.000
vnorm/c =   2.78273
vthe (sqrt(te/me))/c =   0.10085
vthe/vnorm =   0.03624
k= 1 vth(k)/vnorm =   0.00040
k= 2 vth(k)/vnorm =   0.03624
k= 3 vth(k)/vnorm =   0.00040
k= 4 vth(k)/vnorm =   0.00056
k= 5 vth(k)/vnorm =   0.00046
k= 6 vth(k)/vnorm =   0.00026
k= 7 vth(k)/vnorm =   0.00013
k= 8 vth(k)/vnorm =   0.03624



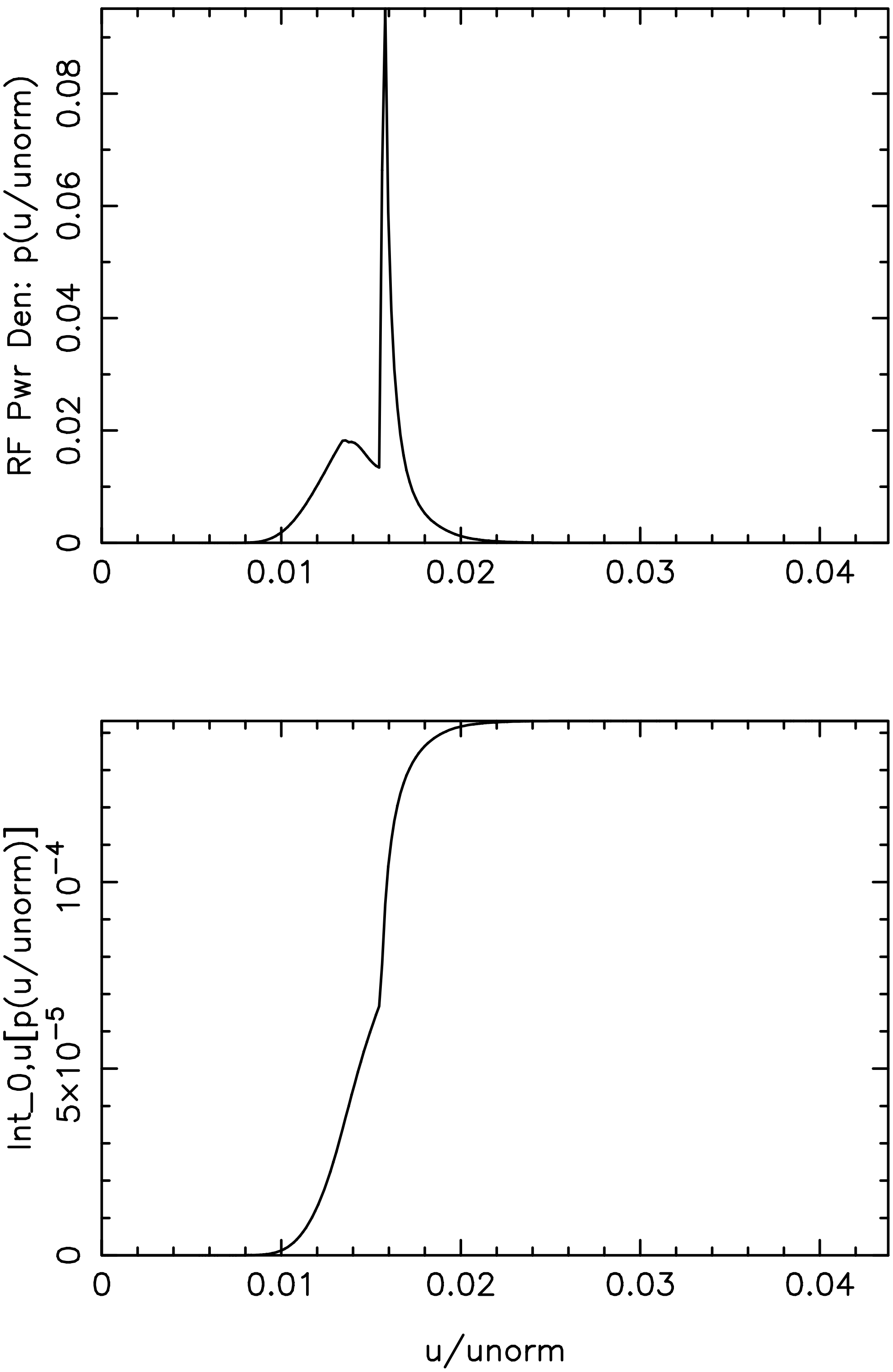
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 1 = 2.4425E−03 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 4.6209E−03 A/W

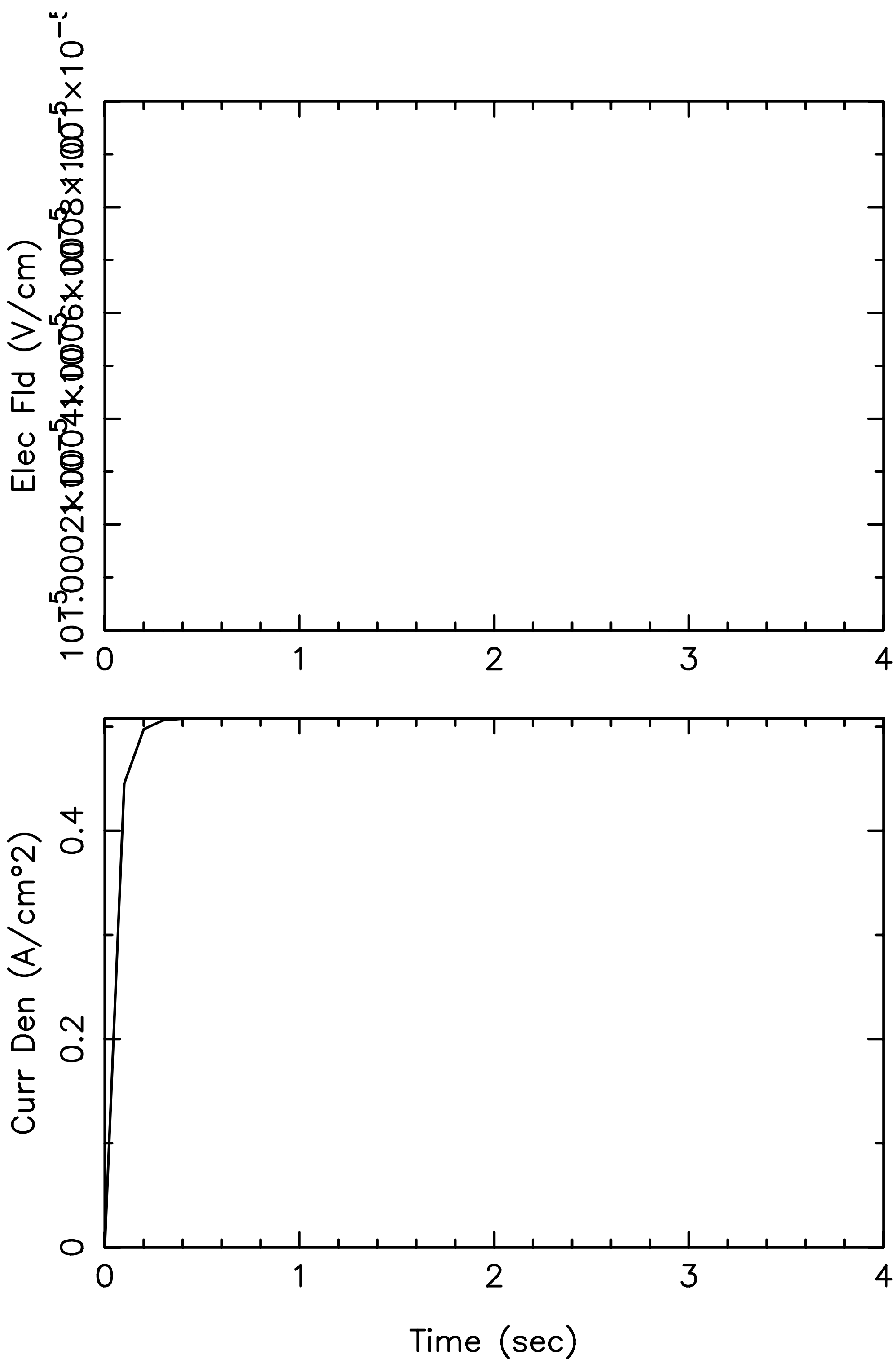
Solid: midplane; Dashed: <..>_FSA



Species: 1 Current(FSA)=0.2430E−02 Amps/cm^2



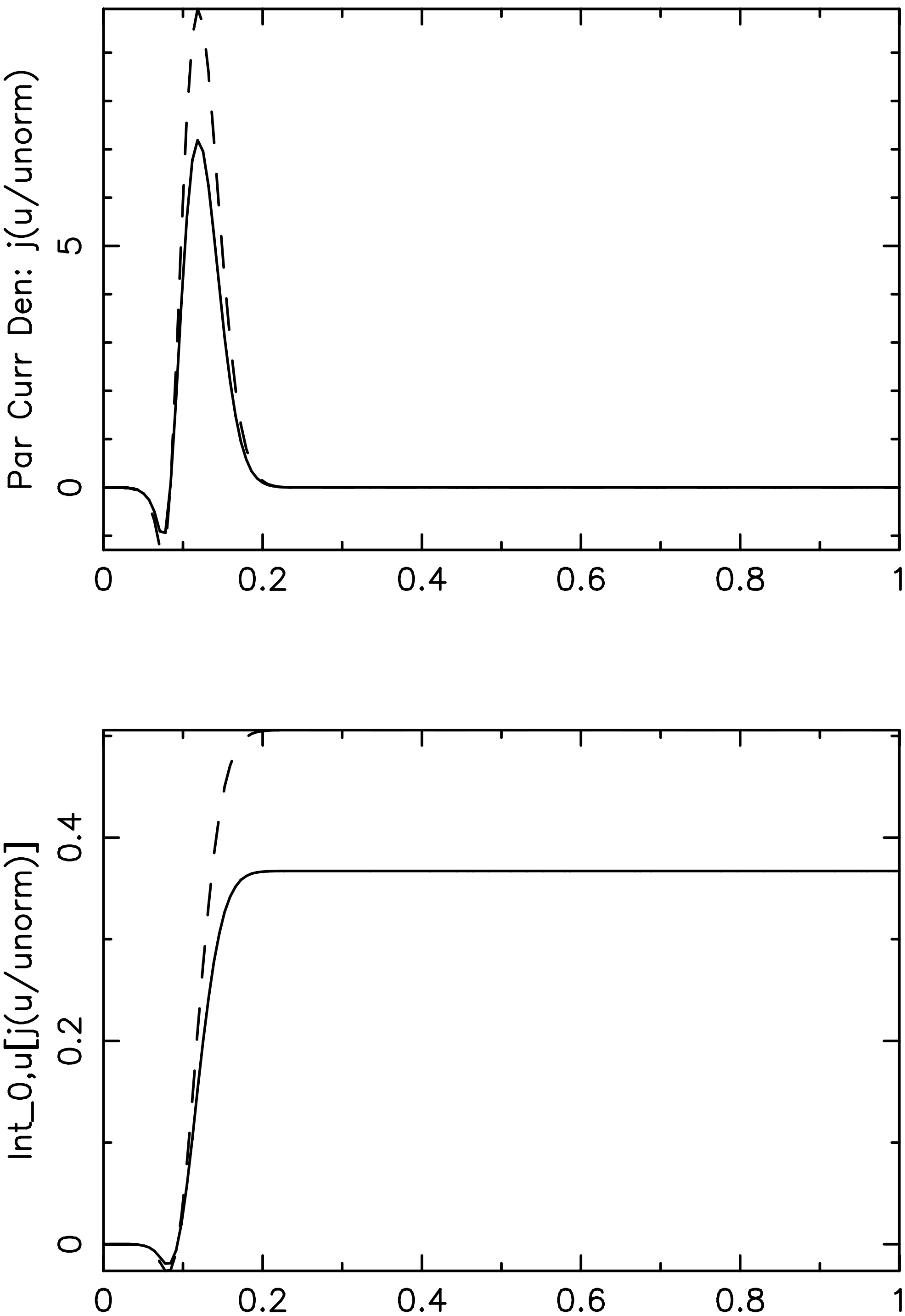
Species: 1 Power =0.1432E−03 Watts/cc



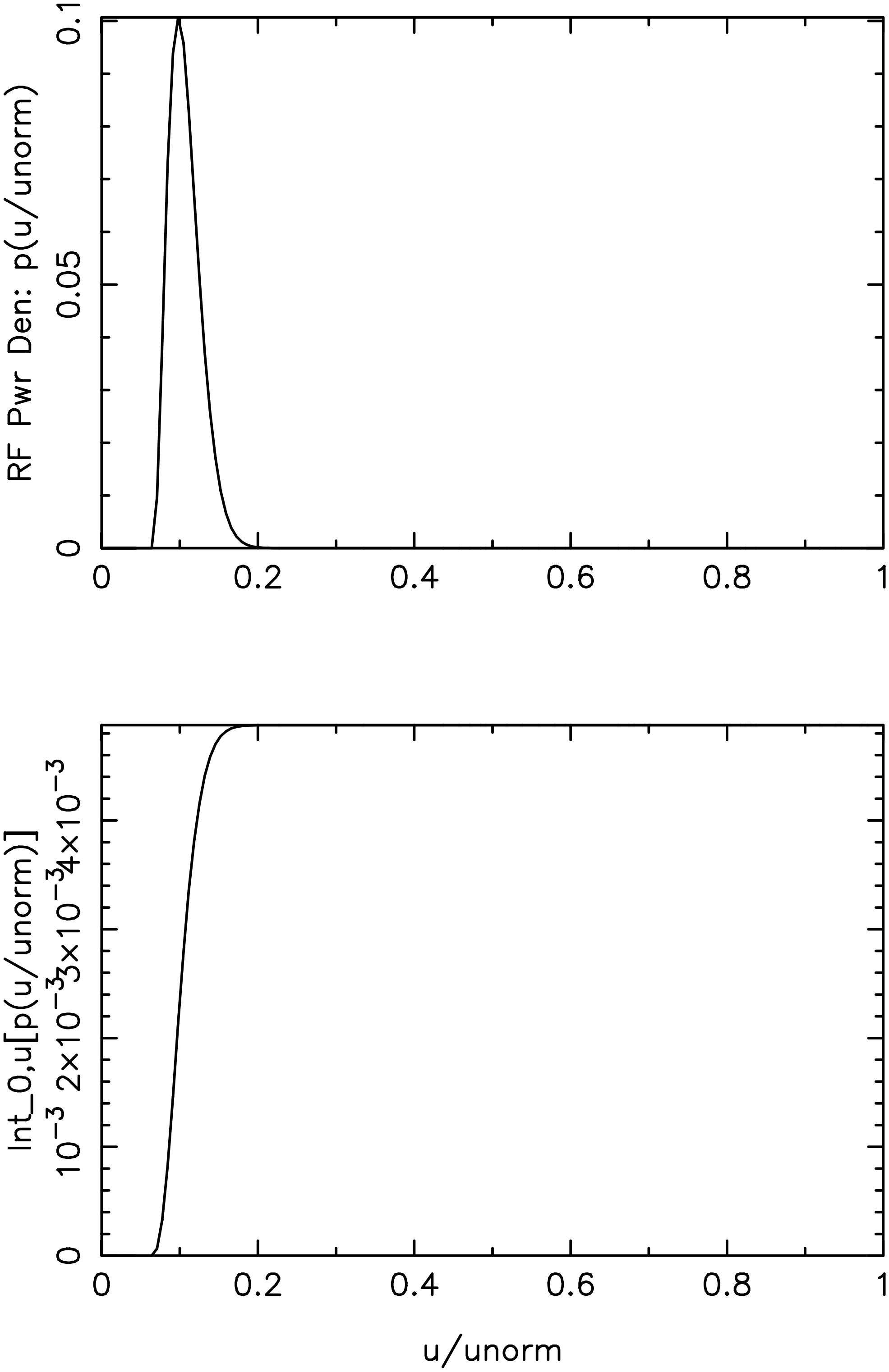
Electric field = 1.0000E−05 (V/cm)
FSA current den of species 2 = 5.0806E−01 Amps/cm**2

Current drive efficiency j/(2*pi*R*prf) = 2.8216E−02 A/W
Electron current (units ne*q*vth(kelec,lr_)) = 1.8410E−05
power (units: ne*vth(kelec,lr_)**2*me*nu0) = 1.9305E−06
efficiency (j/p) (Fisch 1978 units) = 9.5365E+00
efficiency (j/p) (e/(m*c*nu_c units) = 9.6988E−02
vth(kelec,lr_) = sqrt(T/m) = 3.0233E+09 cm/sec
nu0 = 5.3211E+04 Hz

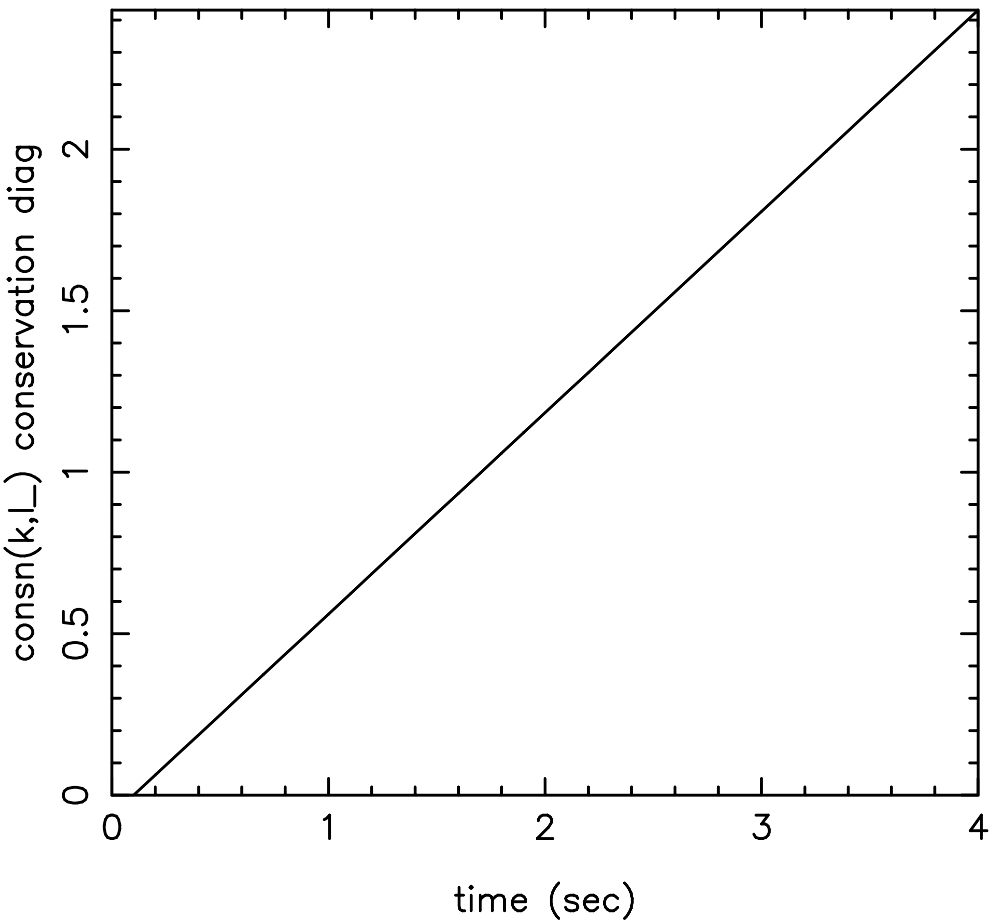
Solid: midplane; Dashed: <..>_FSA



Species: 2 Current(FSA)=0.5057E+00 Amps/cm^2

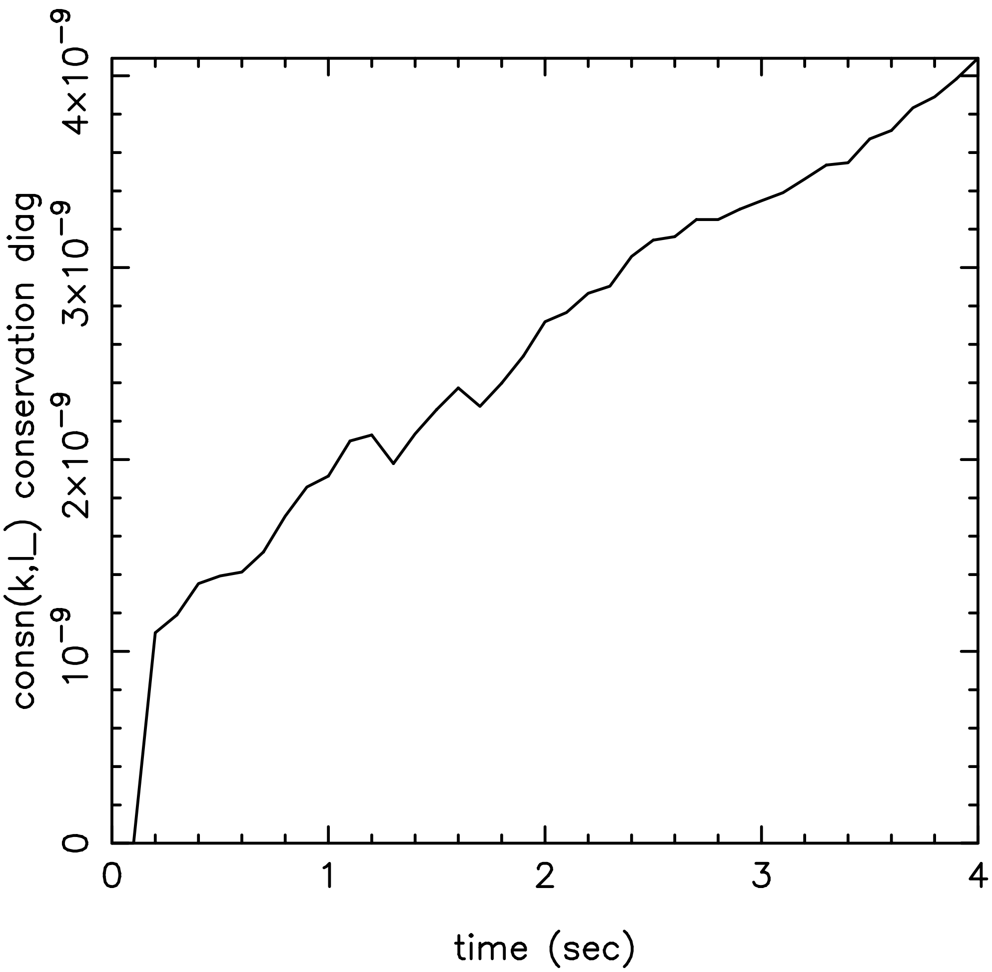


Species: 2 Power =0.4877E−02 Watts/cc



consn(k,l_)= 2.4306E+00
Perfect conservation should yield machine accuracy,
or about 1.e−14:

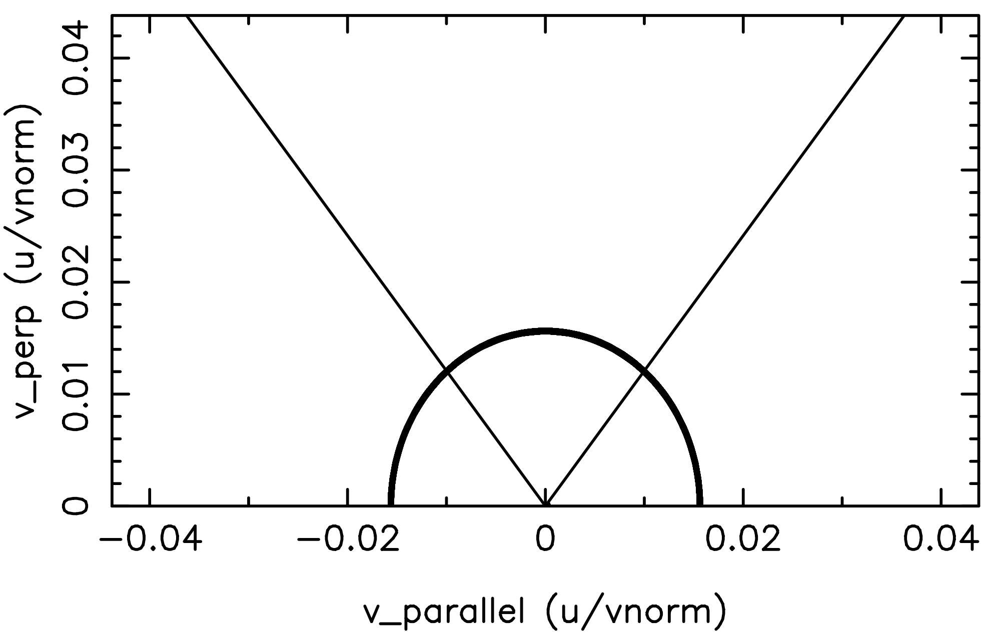
time step (n) is 40   time= 4.0000E+00 secs   Species k= 1
r/a= 8.0000E−01   radial position (r) = 7.9814E+02 cm



consn(k,l_)= 4.0909E-09
Perfect conservation should yield machine accuracy,
or about 1.e-14:

time step (n) is 40   time= 4.0000E+00 secs   Species k= 2
r/a= 8.0000E-01   radial position (r) = 7.9814E+02 cm

Species 1 Source Function (units: dist. f/sec)



time step n= 40 time= 4.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

NBI source rate= 0.0000E+00 ptcls/cc/sec

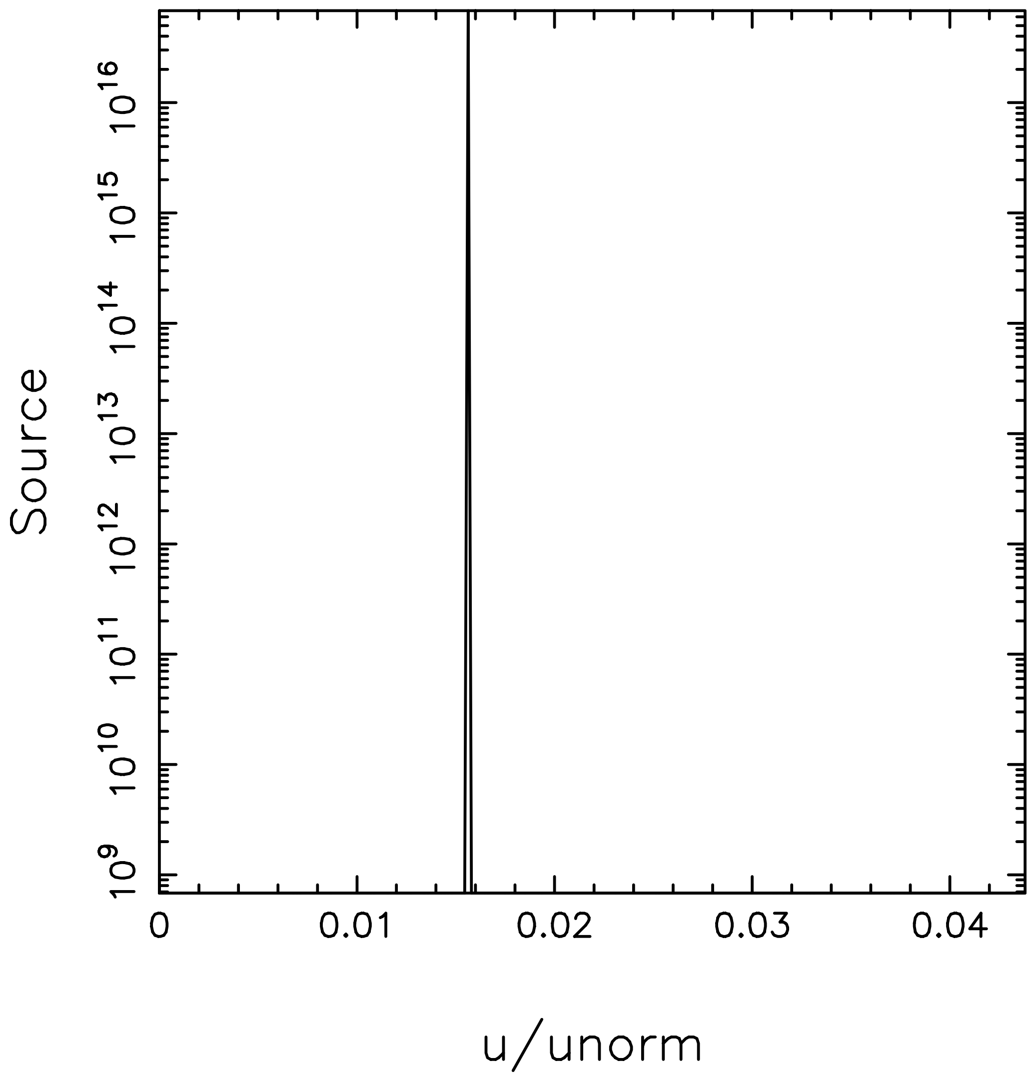
FUS source rate= 9.1259E+09 ptcls/cc/sec

Total source power [entr(..5..)]= 5.1467E−03 W/cc

Contour values:

3.5460E+04	1.4117E+05	5.6201E+05	2.2374E+06
8.9072E+06	3.5460E+07	1.4117E+08	5.6201E+08
2.2374E+09	8.9072E+09	3.5460E+10	1.4117E+11
5.6201E+11	2.2374E+12	8.9072E+12	3.5460E+13
1.4117E+14	5.6201E+14	2.2374E+15	8.9072E+15

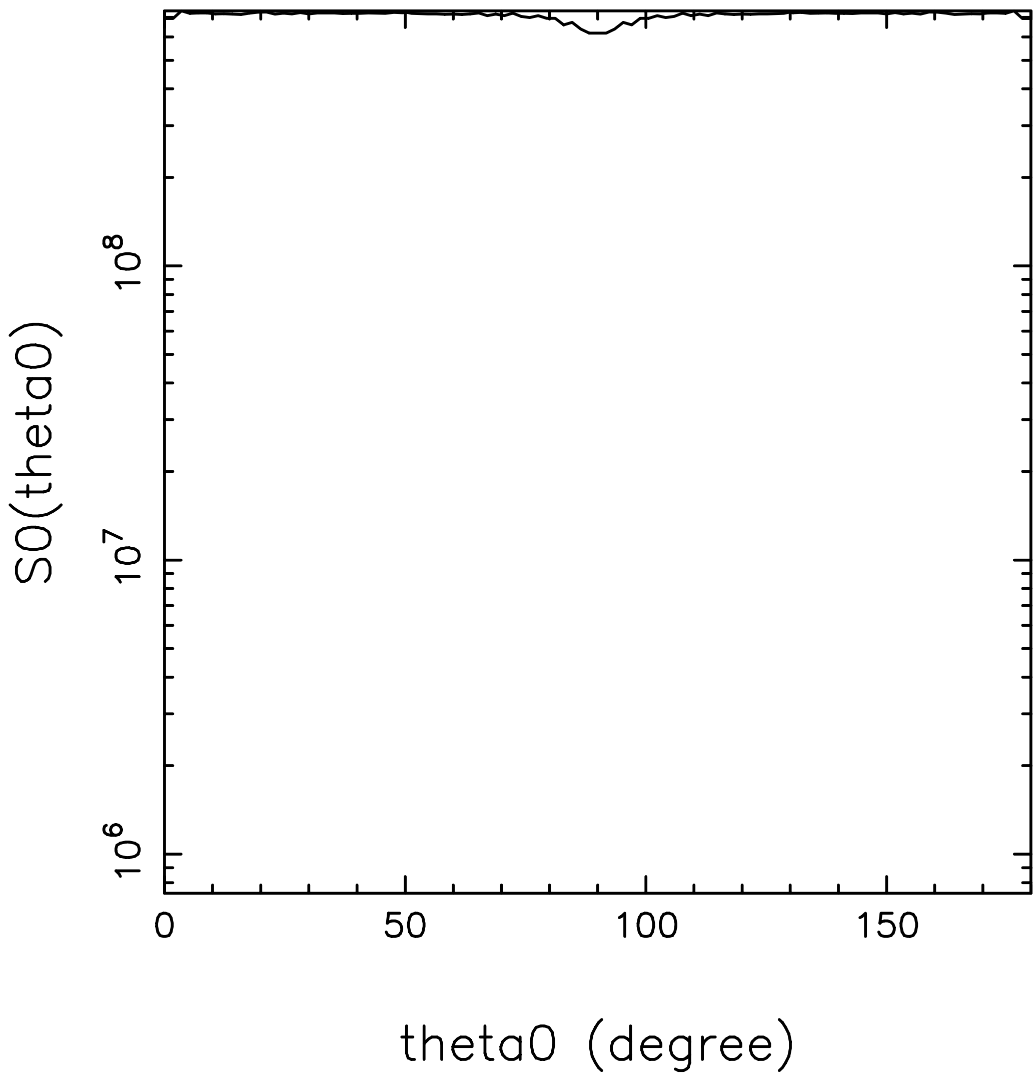
Pitch Angle Avg Source vs. u



Particle source integrated over theta0 for species 1
(normed so int(0,1)*2pi*x**2*dx=mid-plane source)
vnorm= 8.3424E+10 cm/s

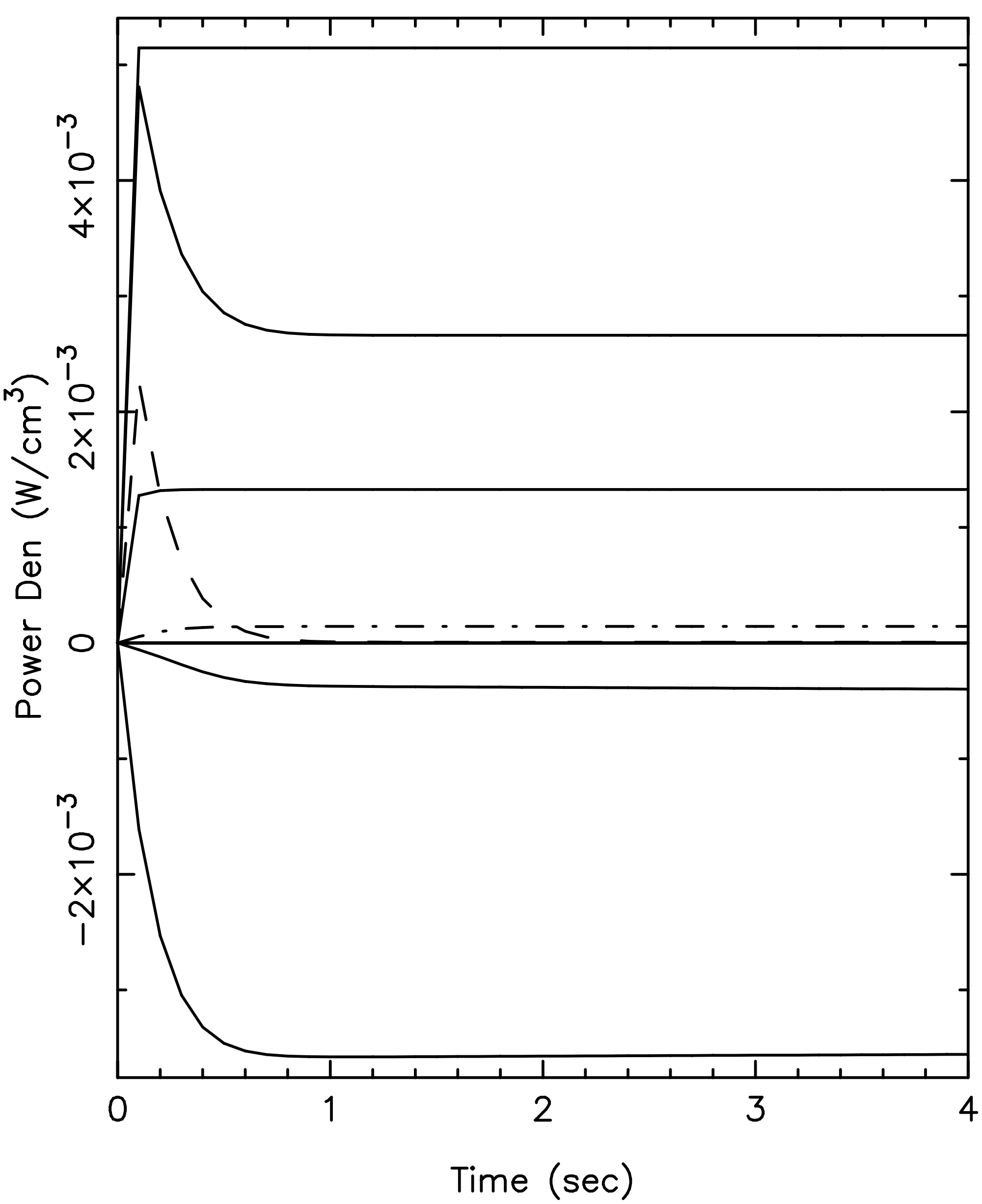
time step (n) is 40 time= 4.0000E+00 secs
r/a= 8.0000E-01 radial position (r) = 7.9814E+02 cm

v−integrated Source

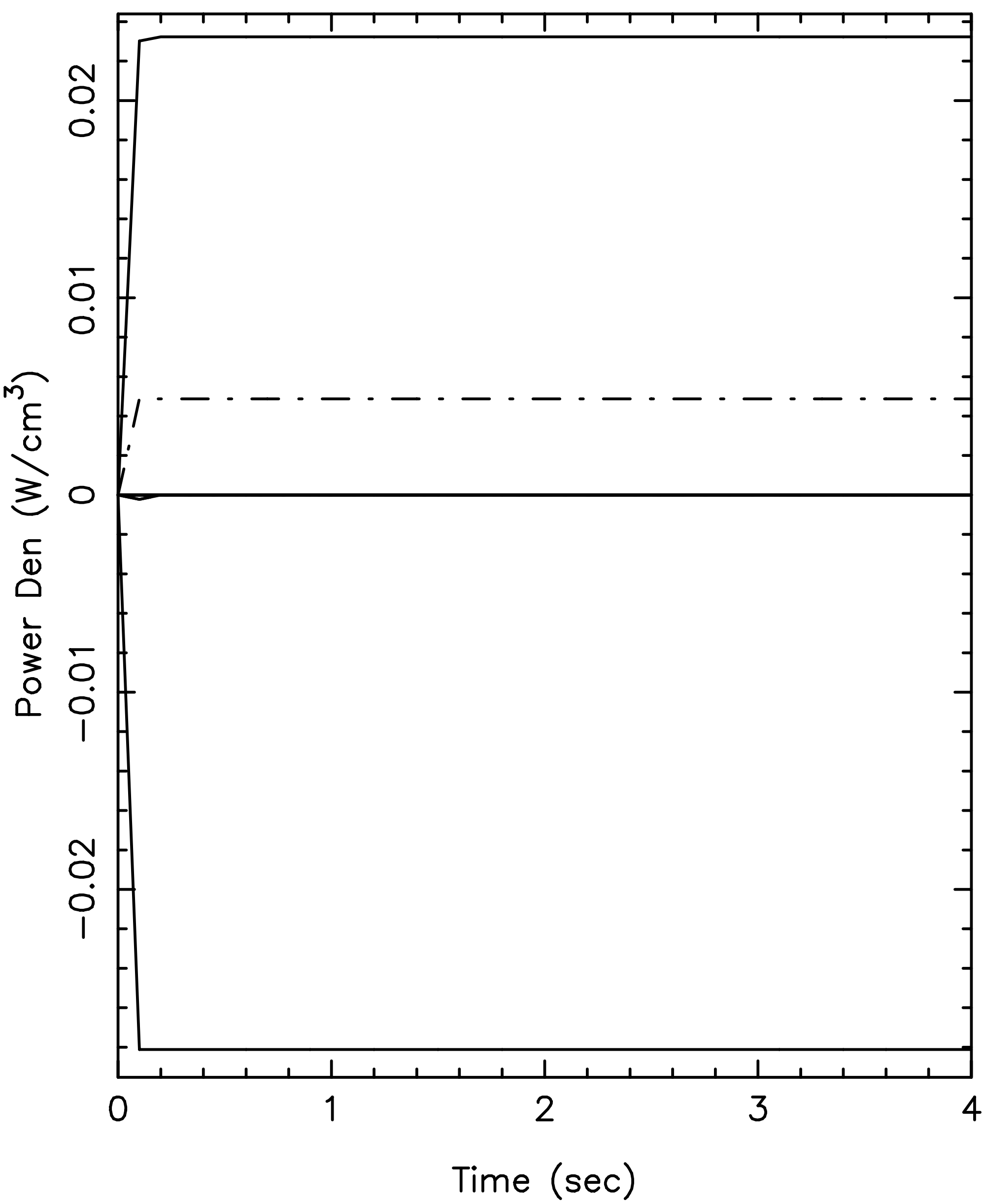


Particle source integrated over v for species 1
(int(0,pi)*S0*2pi*sin(theta0)*dtheta0= ptcls/sec)

time step (n) is 40 time= 4.0000E+00 secs
r/a= 8.0000E−01 radial position (r) = 7.9814E+02 cm

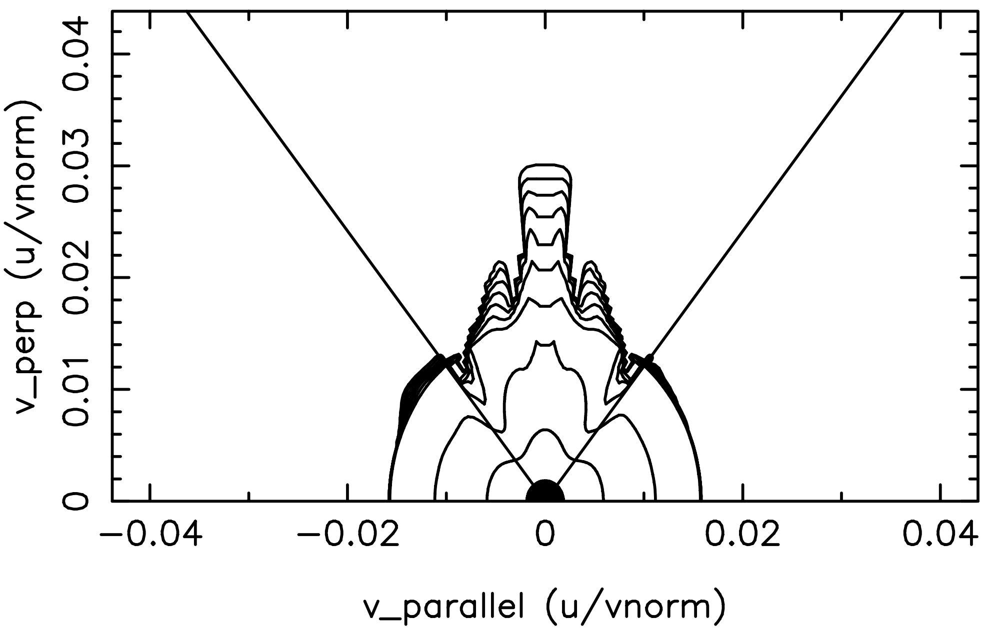


Species k= 1   Final powers in Watts/cc are:
sum over all comp= 2.66E-03   From df/dt : 7.34E-06
collisional transfer from Maxwellian elec.= -3.56E-03
collisional transfer from Maxwellian ions= -3.99E-04
collisional transfer from gens.= 0.00E+00
ohmic drive= 0.00E+00
RF drive= 1.43E-04
particle sources= 5.15E-03
loss-lossmode(k)= 1.33E-03   losses-torloss(k)= -5.37E-94
losses due to runaway= 0.00E+00
setting neg f to zero= 4.52E-07
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00



Species k= 2 Final powers in Watts/cc are:
sum over all comp= 7.45E−11 From df/dt : 7.74E−11
collisional transfer from Maxwellian elec.= 2.32E−02
collisional transfer from Maxwellian ions= −2.81E−02
collisional transfer from gens.= 9.12E−06
ohmic drive= 0.00E+00
RF drive= 4.88E−03
particle sources= 0.00E+00
loss−lossmode(k)= 0.00E+00 losses−torloss(k)= −7.20E−92
losses due to runaway= 0.00E+00
setting neg f to zero= 0.00E+00
synchrotron rad losses= 0.00E+00
phenomenological energy losses= 0.00E+00

Species 1 Distribution Function Contour Plot

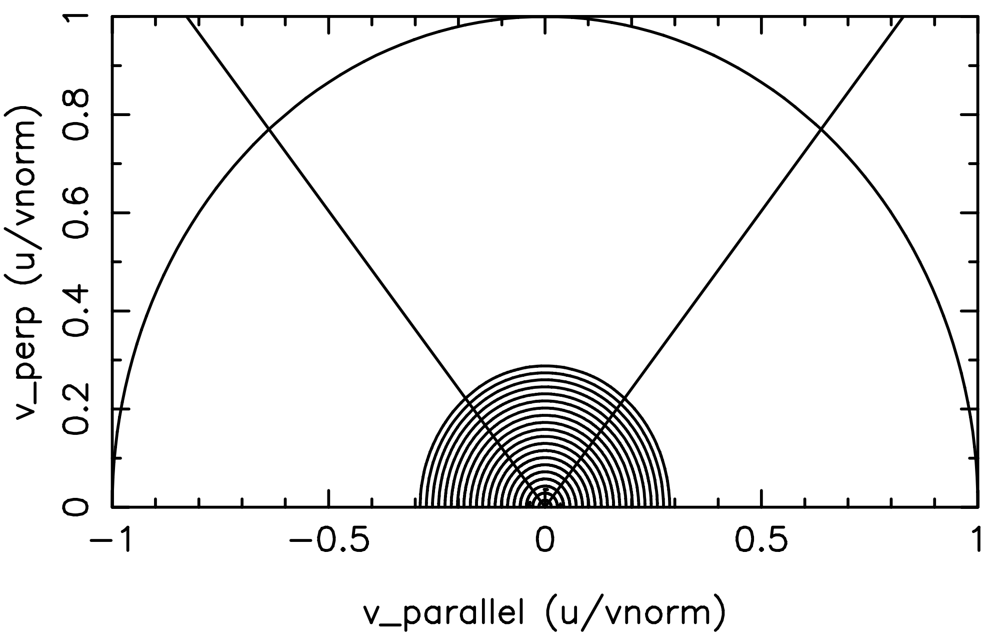


time step n= 40 time= 4.00E+00 secs
r/a= 8.00E−01 radial position (r) = 2.04E+02 cm
rya= 8.000E−01 R=rpcon= 7.981E+02 cm, Surf# 32

Contour values:

3.159118E+19	2.504249E+19	1.702122E+19	9.935425E+18
4.991129E+18	2.163698E+18	8.120115E+17	2.647682E+17
7.530777E+16	1.876507E+16	4.115000E+15	7.979053E+14
1.374680E+14	2.114744E+13	2.919222E+12	3.633848E+11
4.098910E+10	4.209631E+09	3.954711E+08	3.413828E+07

Species 2 Distribution Function Contour Plot



time step n= 40   time= 4.00E+00 secs
r/a= 8.00E−01   radial position (r) = 2.04E+02 cm
rya= 8.000E−01   R=rpcon= 7.981E+02 cm, Surf# 32

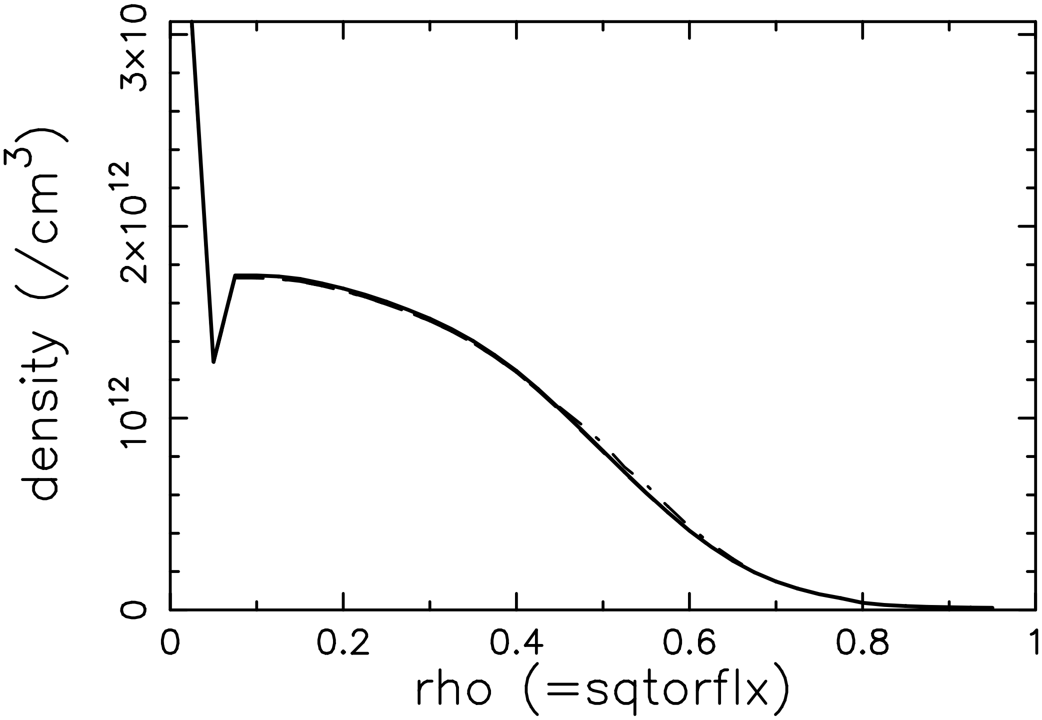
Contour values:

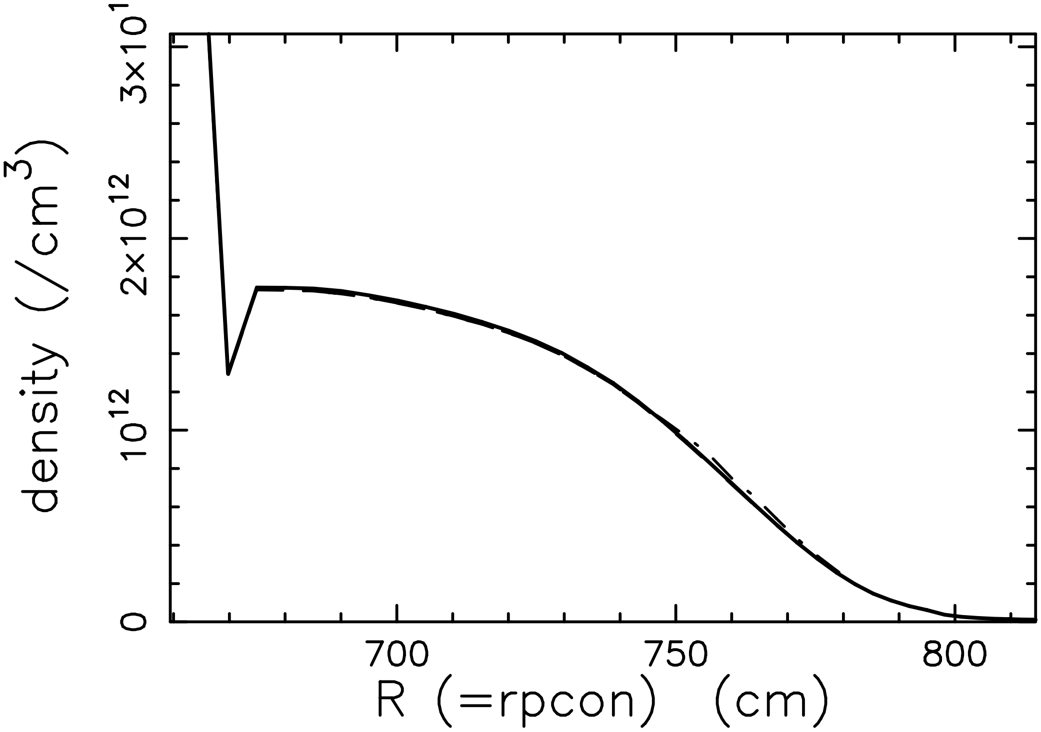
6.855147E+16	5.414722E+16	3.659182E+16	2.119533E+16
1.054966E+16	4.526285E+15	1.680172E+15	5.418575E+14
1.525176E+14	3.765133E+13	8.193918E+12	1.580338E+12
2.715763E+11	4.180866E+10	5.797103E+09	7.278337E+08
8.317385E+07	8.694992E+06	8.356029E+05	7.416829E+04

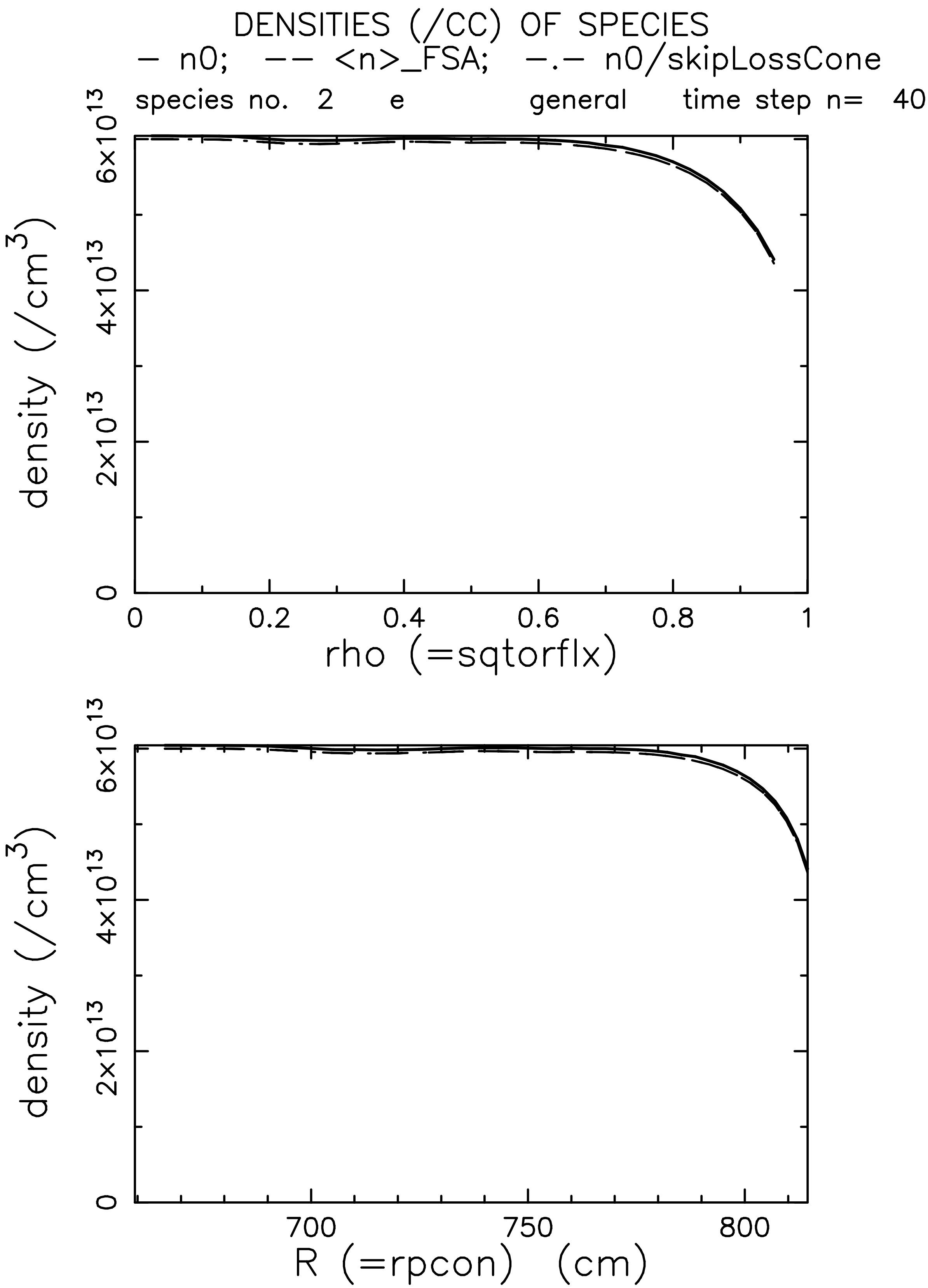
DENSITIES (/CC) OF SPECIES

— n0; -- <n>_FSA; -.- n0/skipLossCone

species no. 1 He general time step n= 40

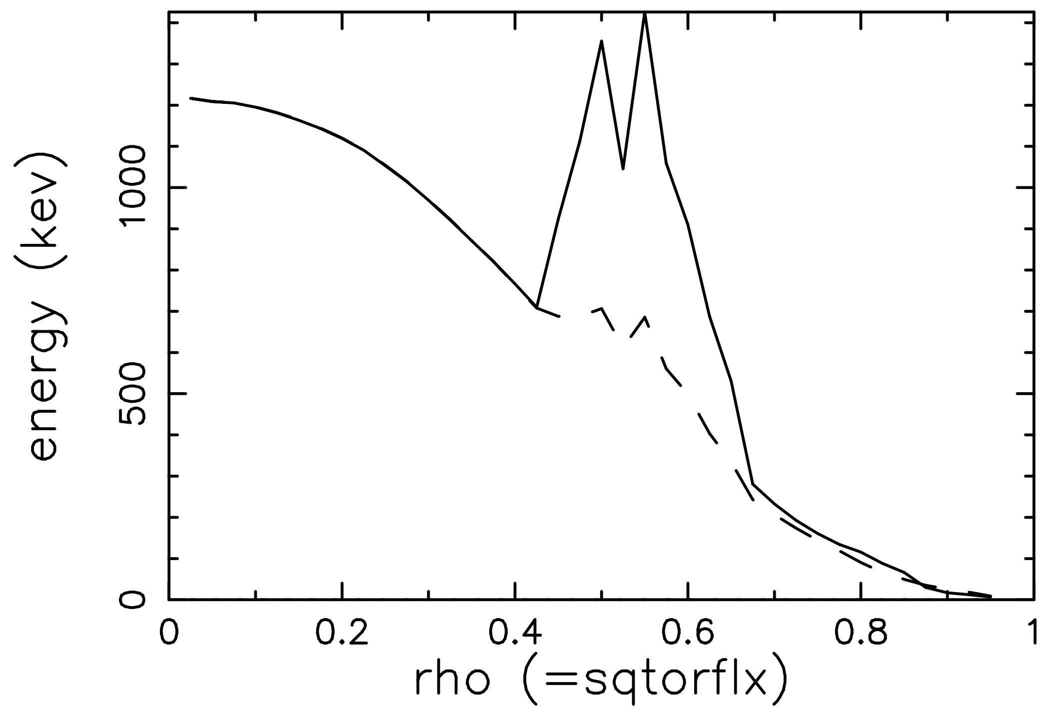


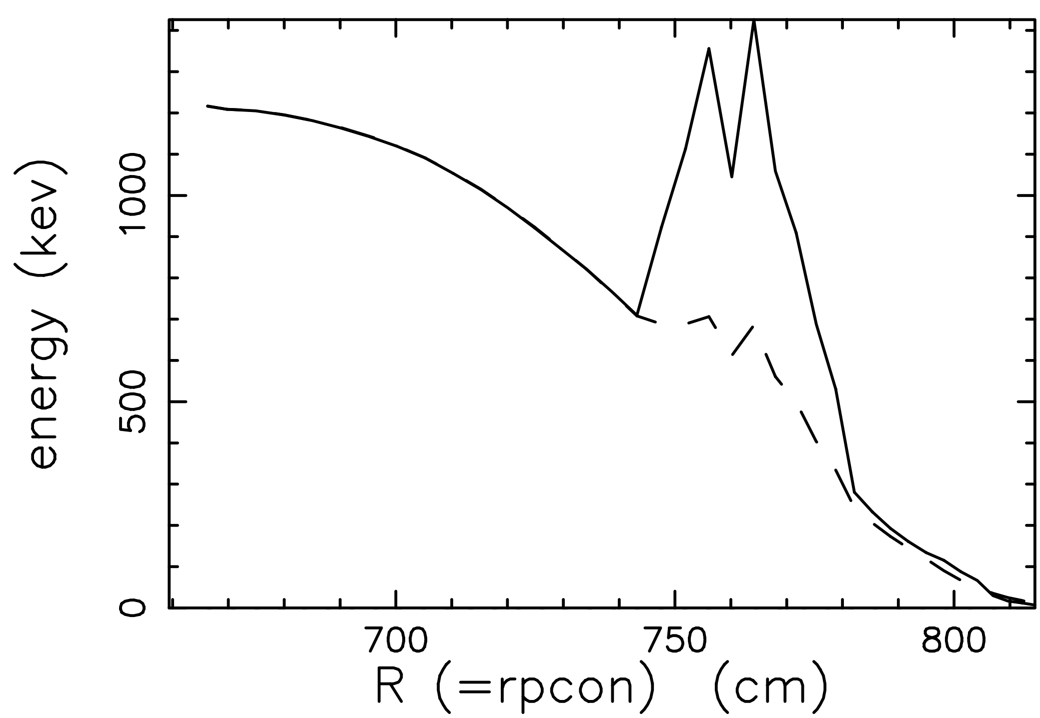



DENSITIES (/CC) OF SPECIES
– n0; –– <n>_FSA; –.– n0/skipLossCone
species no. 2 e general time step n= 40
density (/cm3)
0
2x10^13
4x10^13
6x10^13
0
0.2
0.4
0.6
0.8
1
rho (=sqtorflx)
density (/cm3)
0
2x10^13
4x10^13
6x10^13
700
750
800
R (=rpcon) (cm)

ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

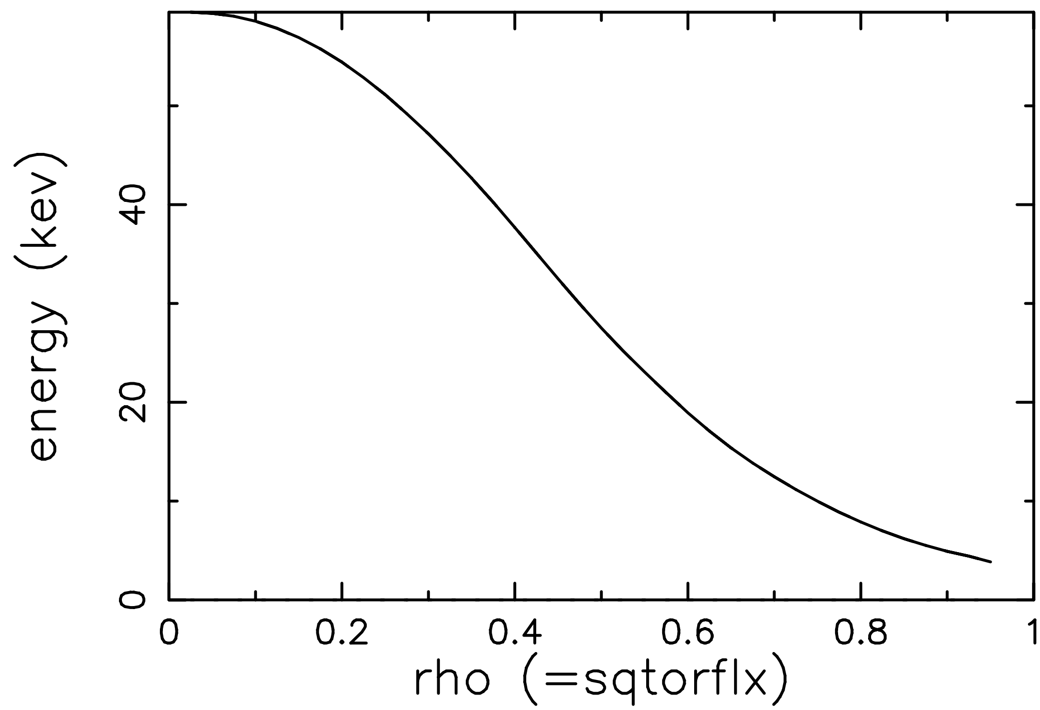
species no. 1 He general time step n= 40

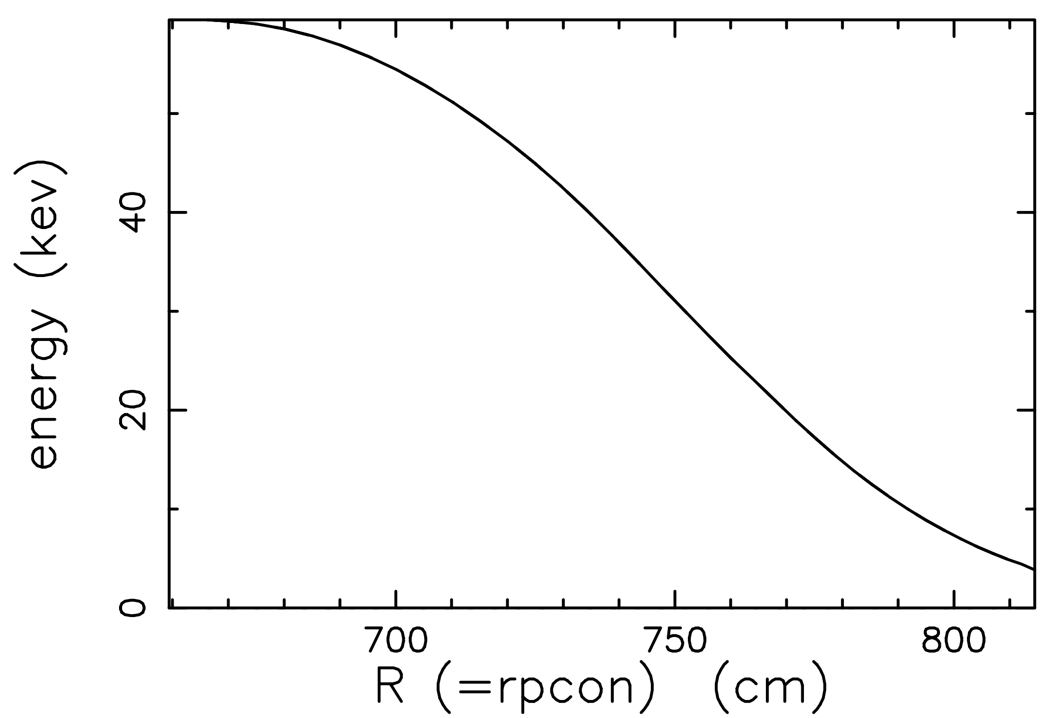




ENERGIES OF SPECIES IN KEV
Solid: midplane; Dashed: <..>_FSA

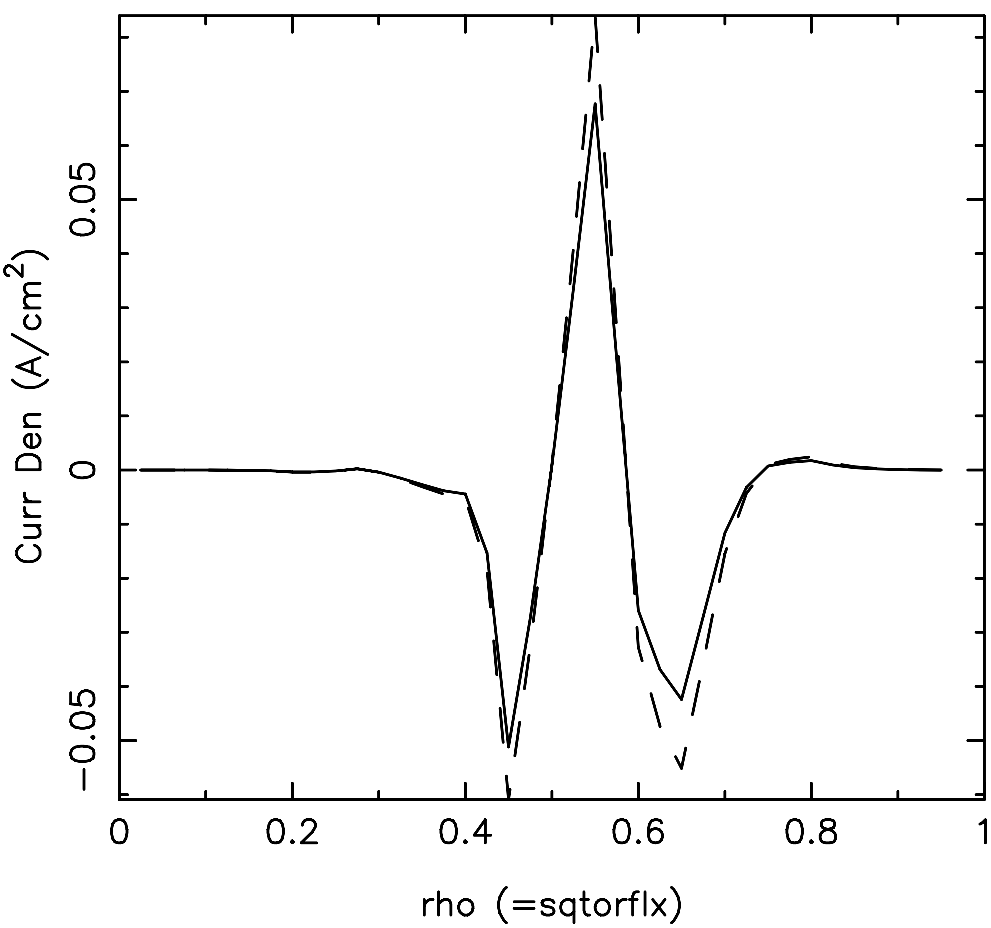
species no. 2   e   general   time step n= 40





FLUX SURF. AV. CURNT. (AMPS/CM^2)
Solid: midplane; Dashed: <..>_FSA

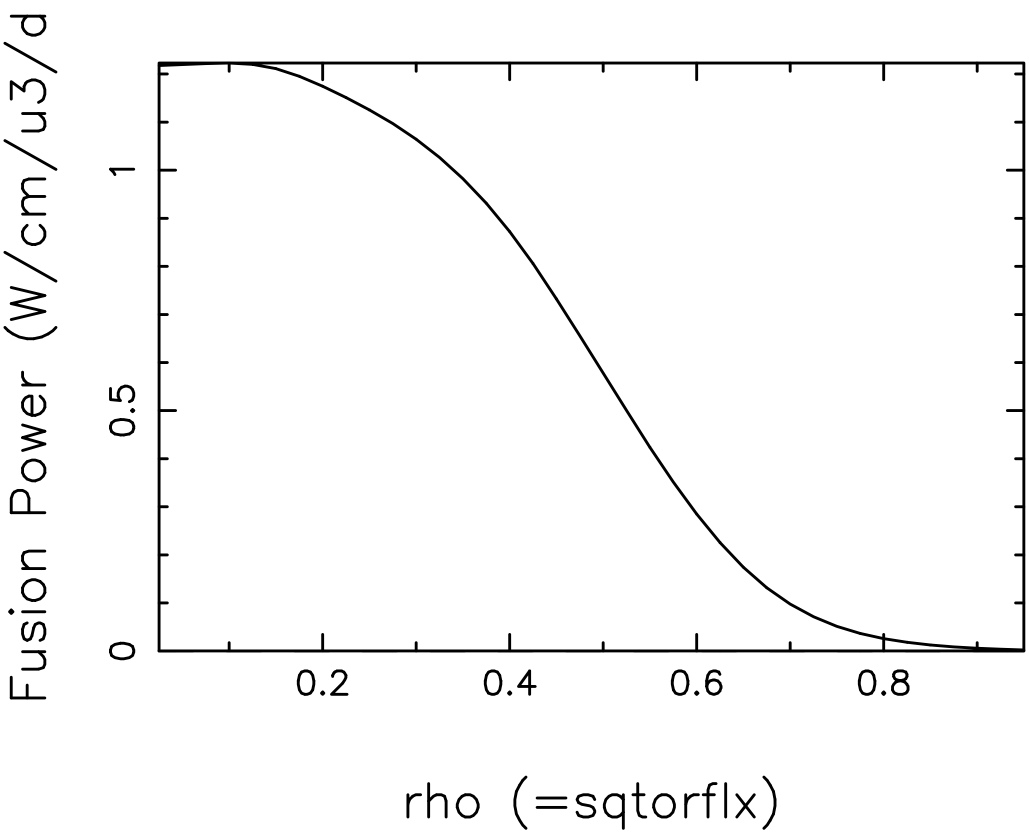
Species: 1 Total current = −0.972515E+03 Amps



Fusion Power (Watts/cm^3)

species no. 1 He general time step n= 40
Fusion reaction number 1
d+t=>alpha(3.5MeV)+n(14.1MeV)

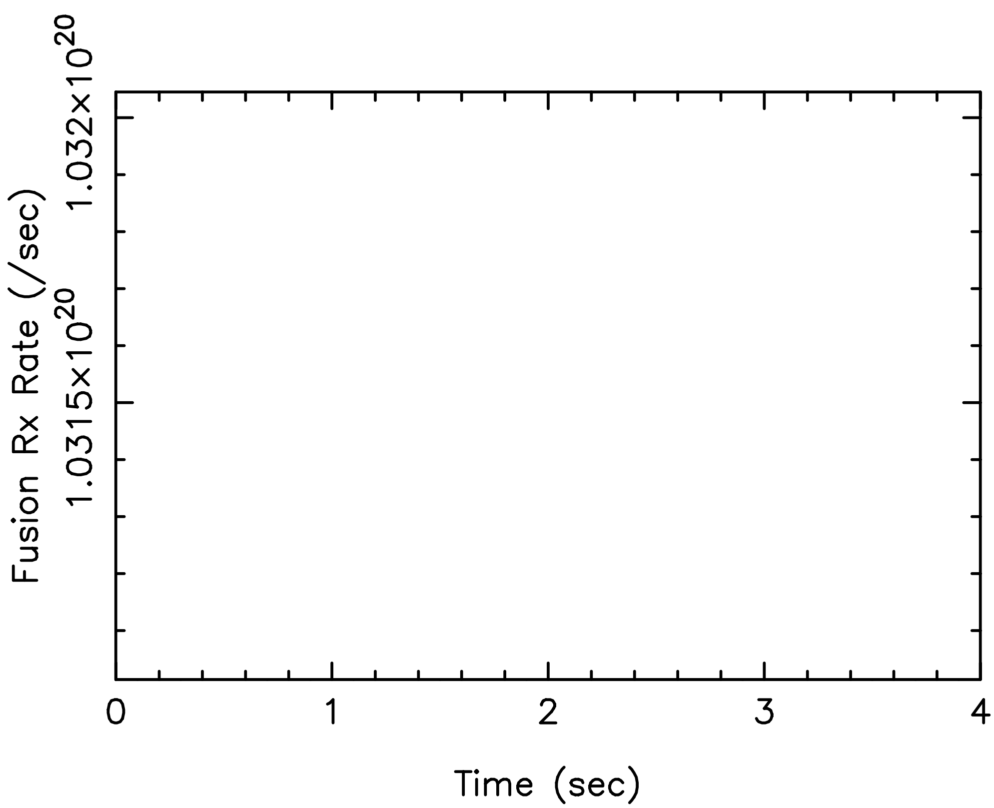
fusion power = 2.906965E+08 Watts



Fusion Rx Rate (/sec) Vs Time

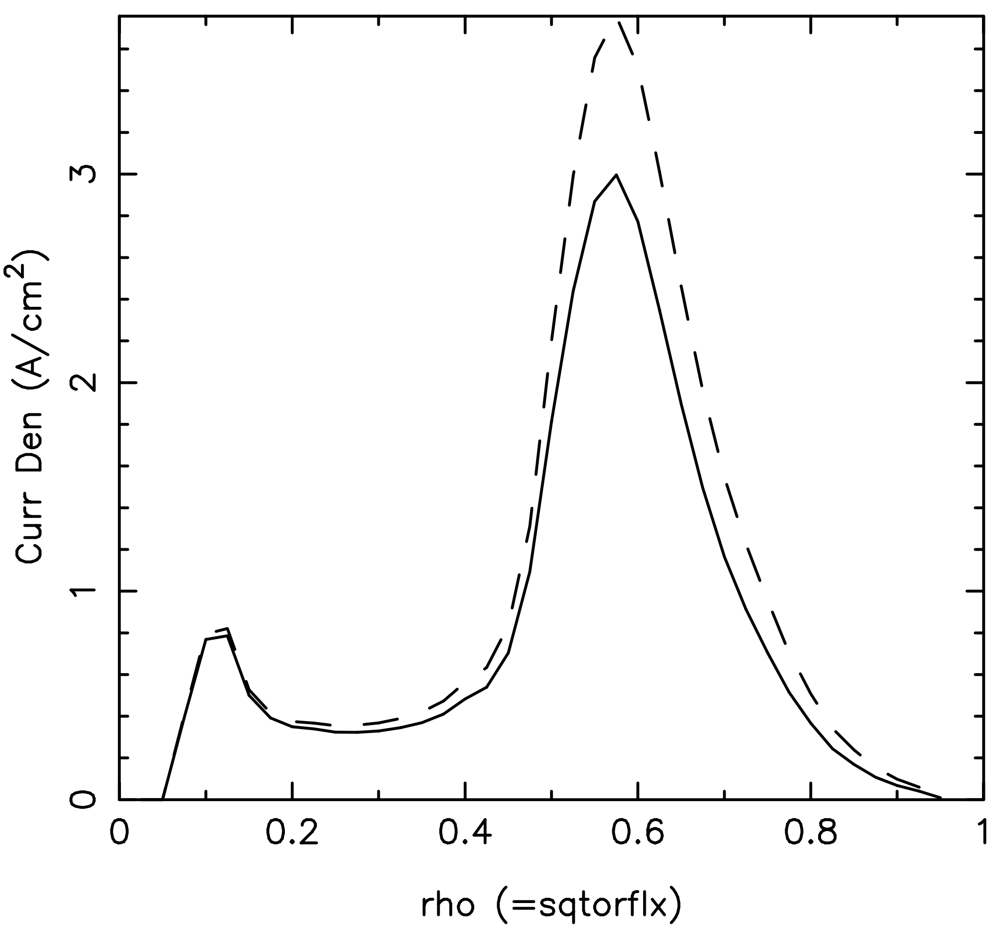
species no. 1 He general time step n= 40
Fusion reaction number 1

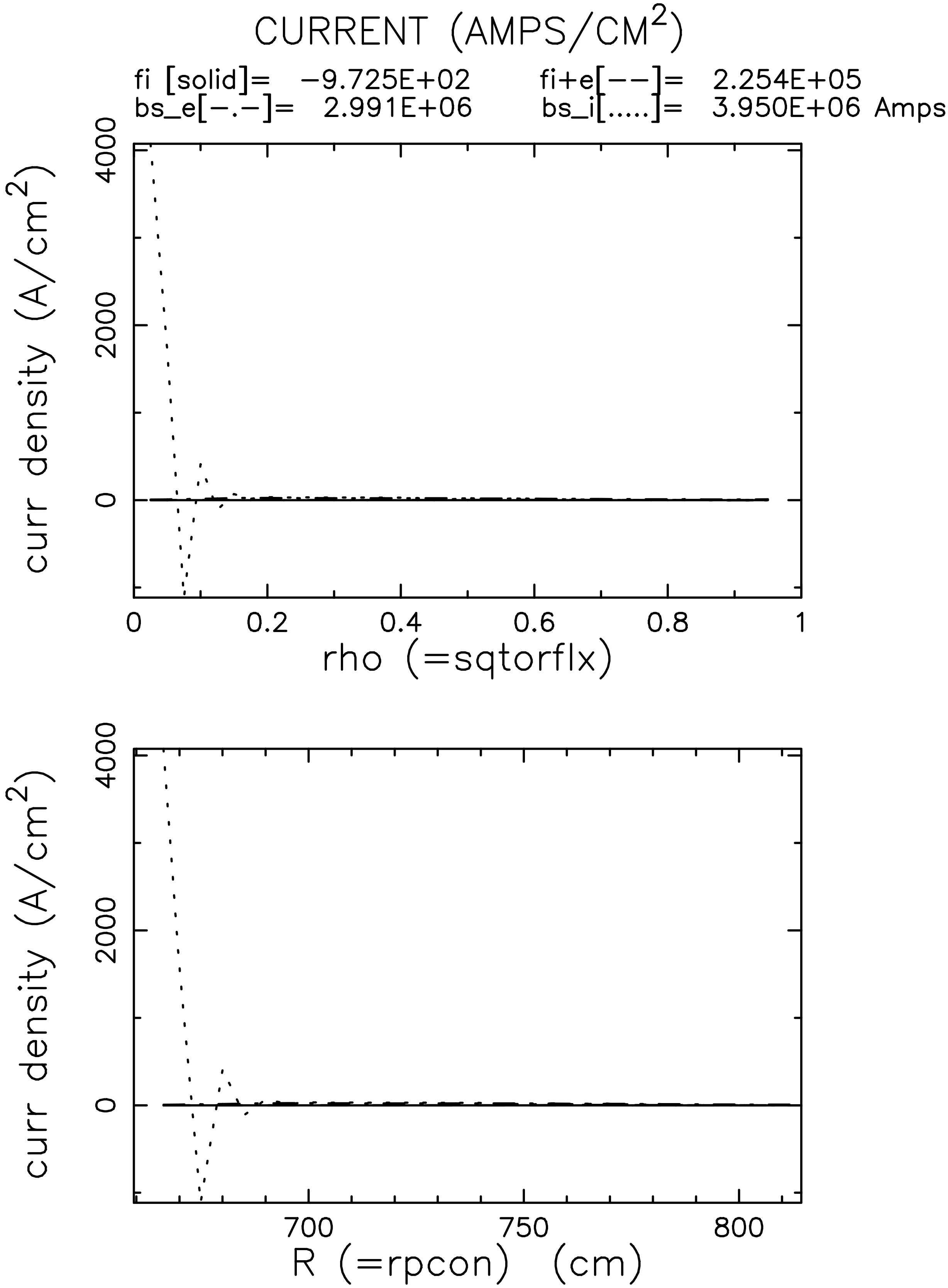
Reaction rate = 1.031014E+20 /sec



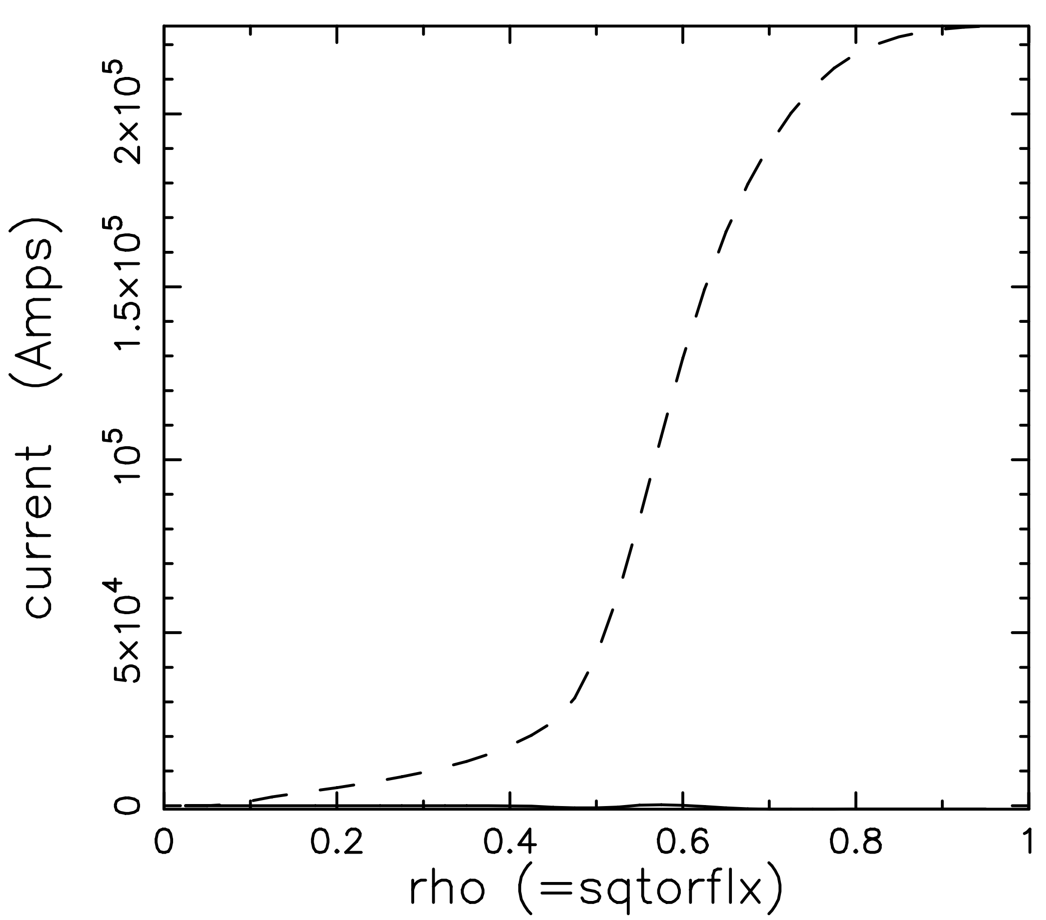
FLUX SURF. AV. CURNT. (AMPS/CM^2)
Solid: midplane; Dashed: <..>_FSA

Species: 2 Total current = 0.226383E+06 Amps




CURRENT (AMPS/CM^2)
fi [solid]= -9.725E+02
fi+e[--]= 2.254E+05
bs_e[-.-]= 2.991E+06
bs_i[.....]= 3.950E+06 Amps
curr density (A/cm^2)
4000
2000
0
0
0.2
0.4
0.6
0.8
1
rho (=sqtorflx)
curr density (A/cm^2)
4000
2000
0
700
750
800
R (=rpcon) (cm)

CURRENT (AMPS)
(INTEGRATED UP TO RHO or PSI)



SOURCE POWER: (WATTS/CC)

rho	NBI+FUS+RF	NBI+FUS	RF	For species k= 1
rho	(sorpwt)	(sorpw_so_fsa)	(sorpw_rf)	
2.500E-02	4.310E-01	4.310E-01	7.624E-40	
5.000E-02	1.809E-01	1.809E-01	3.234E-40	
7.500E-02	2.449E-01	2.445E-01	4.977E-10	
1.000E-01	2.451E-01	2.444E-01	2.450E-07	
1.250E-01	2.446E-01	2.438E-01	1.342E-07	
1.500E-01	2.426E-01	2.419E-01	1.784E-07	
1.750E-01	2.394E-01	2.387E-01	5.365E-07	
2.000E-01	2.356E-01	2.349E-01	6.662E-05	
2.250E-01	2.313E-01	2.304E-01	1.178E-04	
2.500E-01	2.262E-01	2.251E-01	5.510E-06	
2.750E-01	2.205E-01	2.193E-01	2.200E-05	
3.000E-01	2.141E-01	2.127E-01	4.519E-05	
3.250E-01	2.068E-01	2.052E-01	2.542E-05	
3.500E-01	1.983E-01	1.963E-01	1.015E-04	
3.750E-01	1.887E-01	1.861E-01	3.466E-04	
4.000E-01	1.778E-01	1.745E-01	6.803E-04	
4.250E-01	1.648E-01	1.610E-01	7.507E-04	
4.500E-01	1.576E-01	1.465E-01	6.957E-03	
4.750E-01	1.548E-01	1.312E-01	1.689E-02	
5.000E-01	1.569E-01	1.155E-01	2.975E-02	
5.250E-01	1.379E-01	9.990E-02	2.204E-02	
5.500E-01	1.442E-01	8.469E-02	4.022E-02	
5.750E-01	1.188E-01	7.030E-02	2.774E-02	
6.000E-01	1.007E-01	5.693E-02	2.346E-02	
6.250E-01	7.819E-02	4.501E-02	1.468E-02	
6.500E-01	6.039E-02	3.478E-02	9.617E-03	
6.750E-01	4.223E-02	2.627E-02	2.235E-03	
7.000E-01	3.236E-02	1.944E-02	1.362E-03	
7.250E-01	2.484E-02	1.424E-02	8.343E-04	
7.500E-01	1.889E-02	1.024E-02	5.135E-04	

7.750E-01	1.398E-02	7.281E-03	3.129E-04
8.000E-01	9.065E-03	4.045E-03	1.431E-04
8.250E-01	6.077E-03	2.542E-03	6.748E-05
8.500E-01	4.230E-03	1.642E-03	4.464E-05
8.750E-01	2.762E-03	1.068E-03	2.794E-05
9.000E-01	1.782E-03	6.953E-04	3.420E-06
9.250E-01	1.107E-03	4.542E-04	6.196E-07
9.500E-01	3.083E-04	1.617E-04	7.875E-09

Pwr integr. over radius (RF+NBI+FUS, all gen.species)= 6.8190E+07Watts
P from FUS(+NBI,if present) sources k= 1 (sorpw_so_i)= 5.8129E+07Watt
Power from RF for Gen.species k= 1 (sorpw_rfi)= 4.7036E+06Watts

SOURCE POWER: (WATTS/CC)

rho	NBI+FUS+RF	NBI+FUS	RF	For species k= 2
rho	(sorpwt)	(sorpw_so_fsa)	(sorpw_rf)	
2.500E-02	4.310E-01	0.000E+00	1.751E-42	
5.000E-02	1.809E-01	0.000E+00	1.761E-42	
7.500E-02	2.449E-01	0.000E+00	3.329E-04	
1.000E-01	2.451E-01	0.000E+00	6.986E-04	
1.250E-01	2.446E-01	0.000E+00	7.802E-04	
1.500E-01	2.426E-01	0.000E+00	6.293E-04	
1.750E-01	2.394E-01	0.000E+00	6.448E-04	
2.000E-01	2.356E-01	0.000E+00	7.226E-04	
2.250E-01	2.313E-01	0.000E+00	8.703E-04	
2.500E-01	2.262E-01	0.000E+00	1.018E-03	
2.750E-01	2.205E-01	0.000E+00	1.156E-03	
3.000E-01	2.141E-01	0.000E+00	1.375E-03	
3.250E-01	2.068E-01	0.000E+00	1.601E-03	
3.500E-01	1.983E-01	0.000E+00	1.875E-03	
3.750E-01	1.887E-01	0.000E+00	2.219E-03	
4.000E-01	1.778E-01	0.000E+00	2.674E-03	
4.250E-01	1.648E-01	0.000E+00	3.078E-03	
4.500E-01	1.576E-01	0.000E+00	4.170E-03	
4.750E-01	1.548E-01	0.000E+00	6.788E-03	
5.000E-01	1.569E-01	0.000E+00	1.163E-02	
5.250E-01	1.379E-01	0.000E+00	1.598E-02	
5.500E-01	1.442E-01	0.000E+00	1.933E-02	
5.750E-01	1.188E-01	0.000E+00	2.079E-02	
6.000E-01	1.007E-01	0.000E+00	2.035E-02	
6.250E-01	7.819E-02	0.000E+00	1.849E-02	
6.500E-01	6.039E-02	0.000E+00	1.599E-02	
6.750E-01	4.223E-02	0.000E+00	1.373E-02	
7.000E-01	3.236E-02	0.000E+00	1.155E-02	
7.250E-01	2.484E-02	0.000E+00	9.766E-03	
7.500E-01	1.889E-02	0.000E+00	8.130E-03	

7.750E-01	1.398E-02	0.000E+00	6.388E-03
8.000E-01	9.065E-03	0.000E+00	4.876E-03
8.250E-01	6.077E-03	0.000E+00	3.468E-03
8.500E-01	4.230E-03	0.000E+00	2.544E-03
8.750E-01	2.762E-03	0.000E+00	1.667E-03
9.000E-01	1.782E-03	0.000E+00	1.083E-03
9.250E-01	1.107E-03	0.000E+00	6.522E-04
9.500E-01	3.083E-04	0.000E+00	1.466E-04

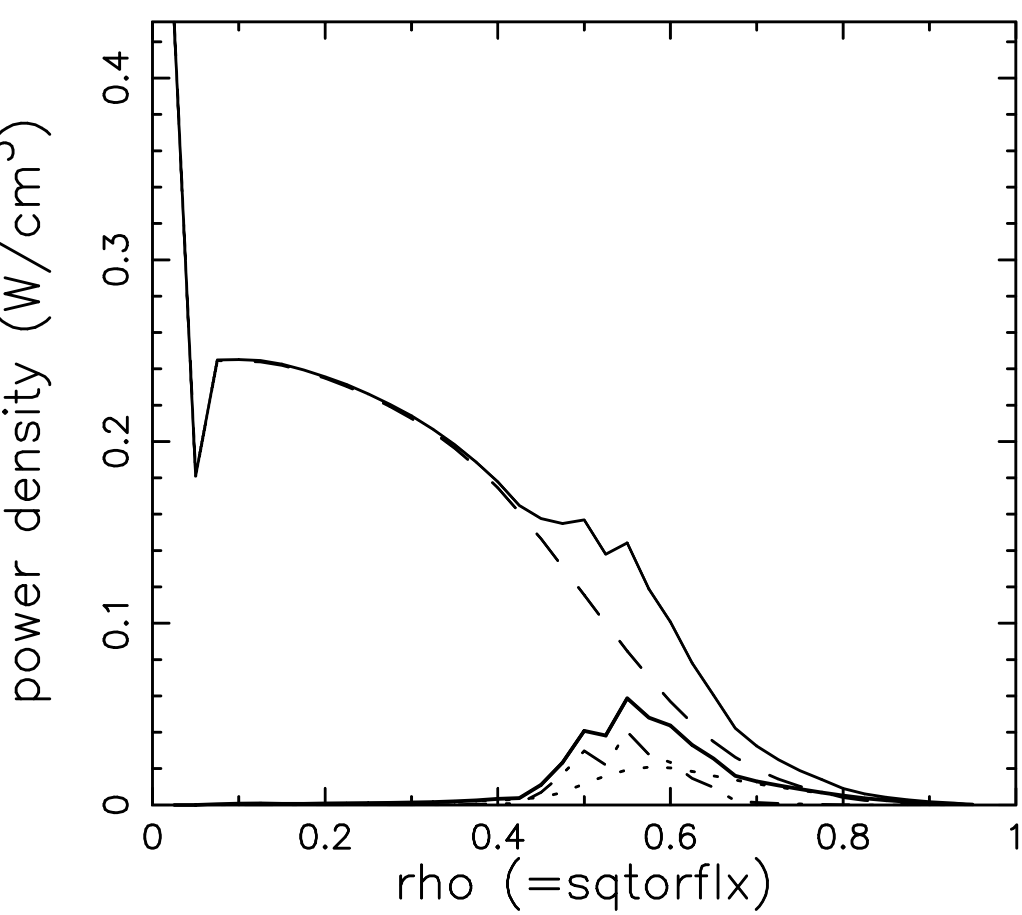
Pwr integr. over radius (RF+NBI+FUS, all gen.species)= 6.8190E+07Watts
Power from RF for Gen.species k= 2 (sorpw_rfi)= 5.3571E+06Watts

DEPOSITED POWER: (WATTS/CC)

rho	TOTAL	RF1	RF2	RF3	RF4	RF5
rho	(powrft)	(powrf(*,harmonic) for harmonics = 1–5)				
0.025	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.050	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.075	0.33E−03	0.13E−55	0.39E−30	0.37E−14	0.25E−10	0.25E−09
0.100	0.69E−03	0.10E−50	0.33E−26	0.17E−13	0.11E−09	0.87E−08
0.125	0.77E−03	0.71E−47	0.42E−23	0.46E−13	0.73E−10	0.18E−07
0.150	0.62E−03	0.34E−28	0.23E−20	0.76E−13	0.24E−10	0.11E−07
0.175	0.63E−03	0.16E−21	0.18E−18	0.90E−13	0.92E−11	0.65E−08
0.200	0.77E−03	0.26E−20	0.27E−17	0.85E−13	0.21E−11	0.38E−08
0.225	0.96E−03	0.22E−18	0.23E−16	0.59E−13	0.57E−12	0.23E−08
0.250	0.99E−03	0.13E−19	0.39E−16	0.27E−13	0.93E−13	0.12E−08
0.275	0.12E−02	0.46E−17	0.27E−15	0.19E−13	0.30E−12	0.70E−09
0.300	0.14E−02	0.29E−22	0.11E−15	0.37E−14	0.30E−14	0.36E−09
0.325	0.16E−02	0.14E−21	0.87E−16	0.87E−15	0.82E−15	0.21E−09
0.350	0.19E−02	0.32E−20	0.56E−16	0.28E−15	0.11E−13	0.12E−09
0.375	0.25E−02	0.16E−19	0.31E−16	0.30E−15	0.24E−13	0.63E−10
0.400	0.33E−02	0.34E−19	0.13E−16	0.19E−16	0.16E−15	0.30E−10
0.425	0.38E−02	0.23E−19	0.21E−17	0.13E−15	0.59E−14	0.14E−10
0.450	0.11E−01	0.11E−19	0.11E−17	0.38E−16	0.19E−14	0.85E−11
0.475	0.23E−01	0.42E−20	0.39E−19	0.66E−17	0.50E−14	0.59E−11
0.500	0.41E−01	0.82E−21	0.18E−20	0.22E−17	0.59E−14	0.75E−11
0.525	0.38E−01	0.14E−21	0.15E−21	0.14E−22	0.33E−14	0.34E−11
0.550	0.59E−01	0.24E−22	0.23E−22	0.45E−23	0.60E−15	0.54E−11
0.575	0.48E−01	0.13E−60	0.35E−45	0.58E−32	0.38E−20	0.18E−11
0.600	0.44E−01	0.32E−61	0.27E−45	0.44E−32	0.29E−21	0.47E−12
0.625	0.33E−01	0.16E−64	0.78E−48	0.11E−33	0.16E−22	0.62E−13
0.650	0.26E−01	0.74E−69	0.51E−51	0.34E−36	0.10E−23	0.12E−13
0.675	0.16E−01	0.30E−76	0.74E−57	0.14E−40	0.82E−27	0.13E−15
0.700	0.13E−01	0.48E−85	0.55E−64	0.45E−46	0.60E−31	0.46E−17
0.725	0.11E−01	−0.38E−94	0.21E−71	0.41E−52	0.14E−35	0.17E−18
0.750	0.87E−02	0.15−100	0.72E−77	0.85E−56	0.10E−37	0.17E−20

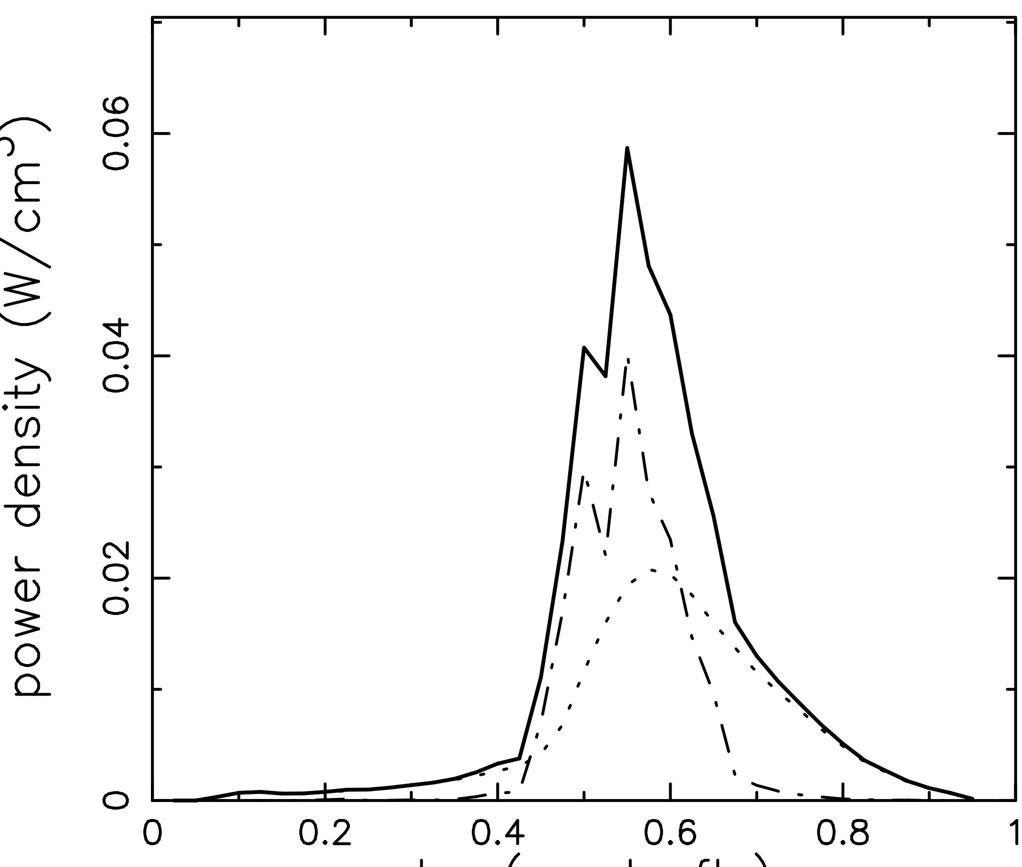
```
Pwr sources integr.over rad(RF+NBI+FUS, all gen.species)=  6.8190E+07W
Power from intern ray diagnostic[powurf(0)]=  1.0020E+07W
      mode/harmonic krf, nharm(krf), powurf(krf)=   1   9  6.4208E-11
      mode/harmonic krf, nharm(krf), powurf(krf)=   2  10  8.9637E-09
      mode/harmonic krf, nharm(krf), powurf(krf)=   3  11  3.8181E-06
      mode/harmonic krf, nharm(krf), powurf(krf)=   4  12  1.3472E-03
      mode/harmonic krf, nharm(krf), powurf(krf)=   5  13  3.8881E-01
      mode/harmonic krf, nharm(krf), powurf(krf)=   6  14  1.0862E+03
      mode/harmonic krf, nharm(krf), powurf(krf)=   7  15  2.3574E+05
      mode/harmonic krf, nharm(krf), powurf(krf)=   8  16  4.2257E+06
      mode/harmonic krf, nharm(krf), powurf(krf)=   9  17  1.8461E+05
      mode/harmonic krf, nharm(krf), powurf(krf)=  10  18 -3.7937E+02
      mode/harmonic krf, nharm(krf), powurf(krf)=  11  19 -2.0830E-02
      mode/harmonic krf, nharm(krf), powurf(krf)=  12   0  5.3728E+06
Power by collisions (from ray data)    =  0.0000E+00W
Power by linear damping (from ray data)=  0.0000E+00W
```

FSA SOURCE POWER DEN: (WATTS/CM^3)
Solid: FusSrc+RF for all gen.species [sorpwt]
Dashed: Fusion Source [sorpw_so_fsa]
Solid-bold: total absorbed RF power [powrft]
Other: RF general ions (each) [sorpw_rf]



FSA RF POWER DEN: (WATTS/CM^3)

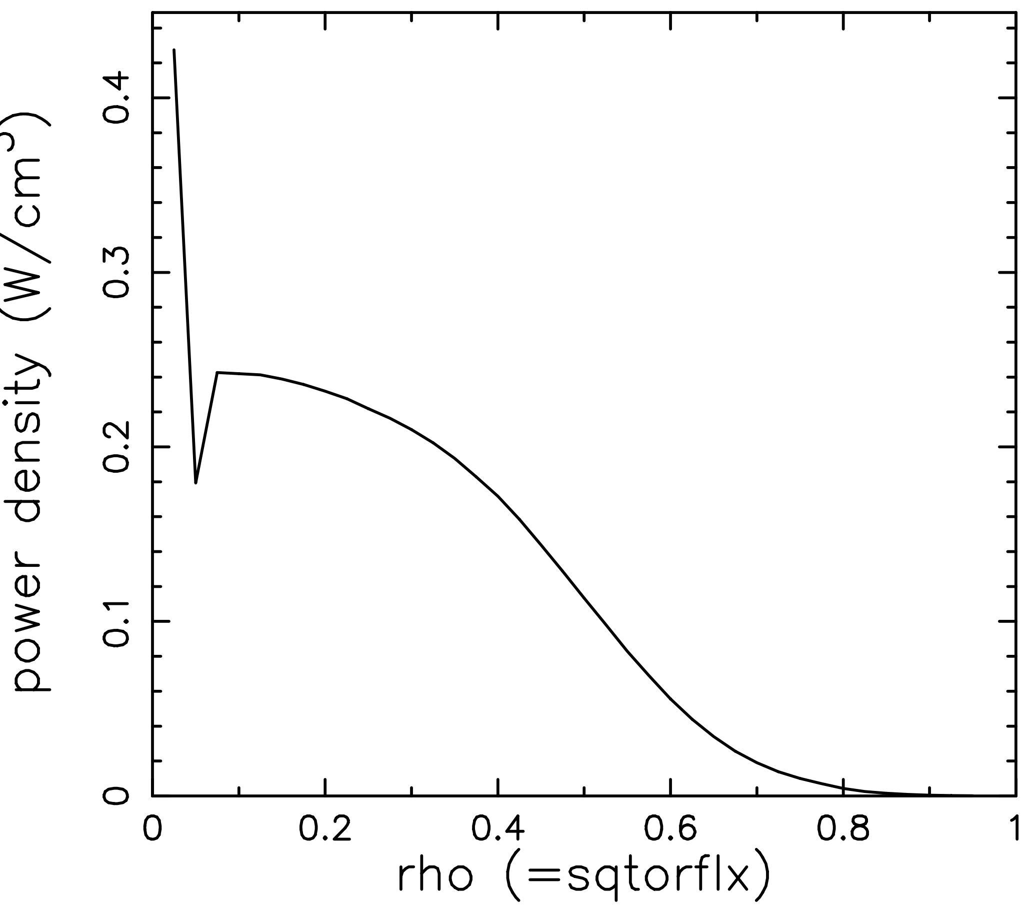
Solid-bold: total absorbed RF power [powrft]
Other: RF general ions (each) [sorpw_rf]



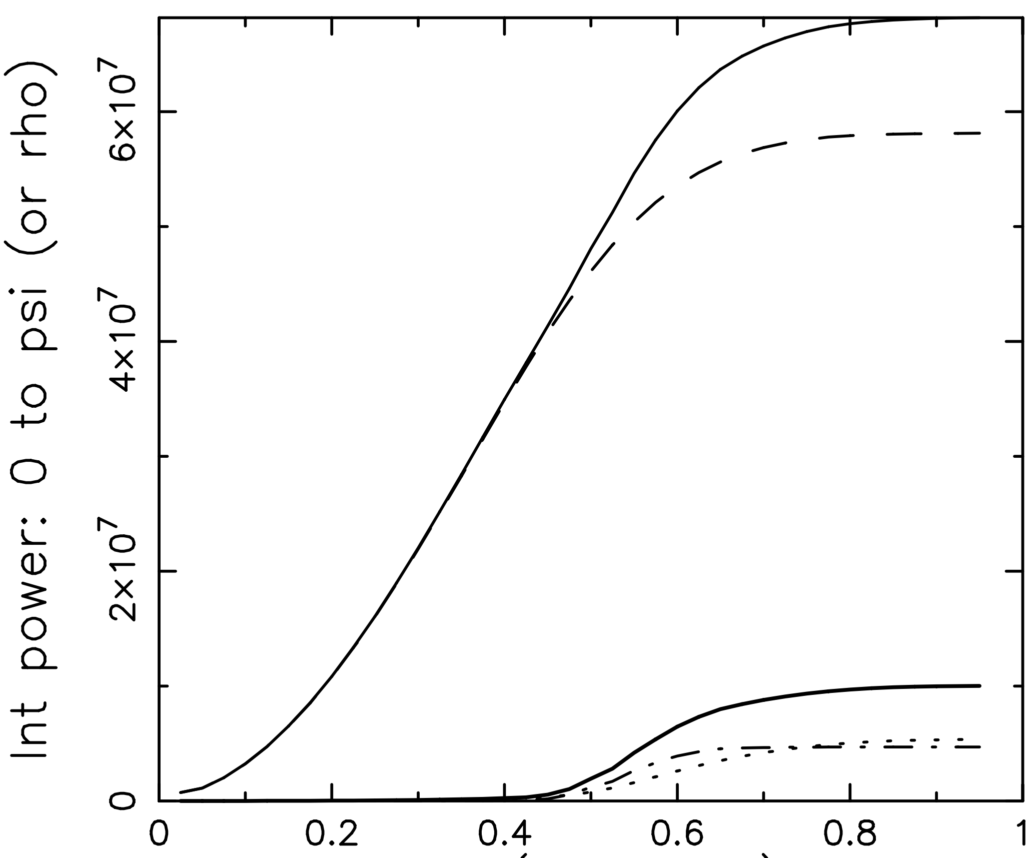
midplane-integrated SOURCE (WATTS/CM^3)

Integral[source*ptcl_enrg*d^{3}v$_0$]

Fusion Source [sorpw_so_midpl]

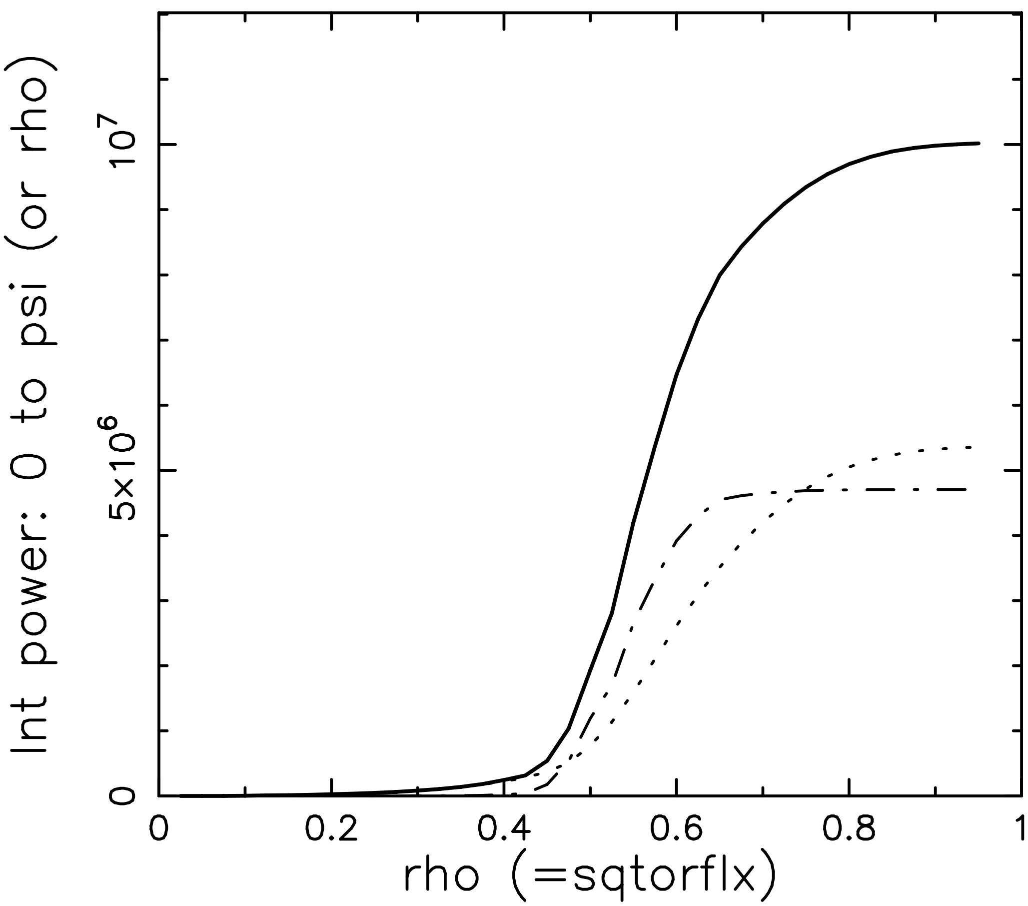


SOURCE POWER (integr. up to rho or psi) (WATTS)
Solid line: FusSrc+RF for all gen.species [sorpwti]
Dashed: Fusion Source [sorpw_so_i]
Solid-bold: total absorbed RF [powurfi(*,0)]
Other: RF general ions (each) [sorpw_rfi]

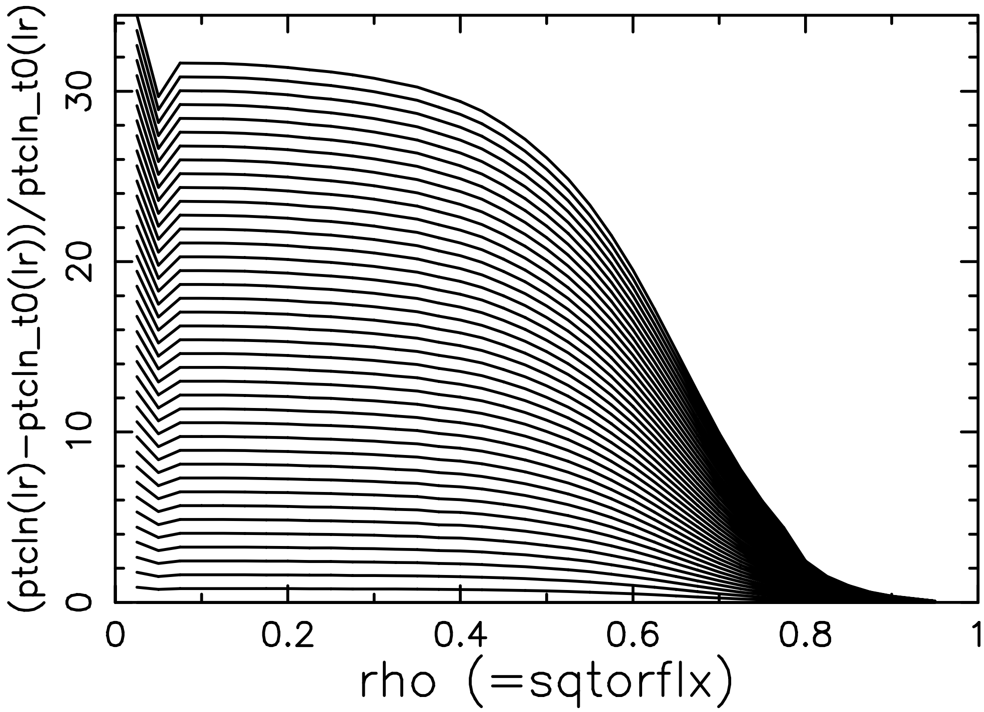


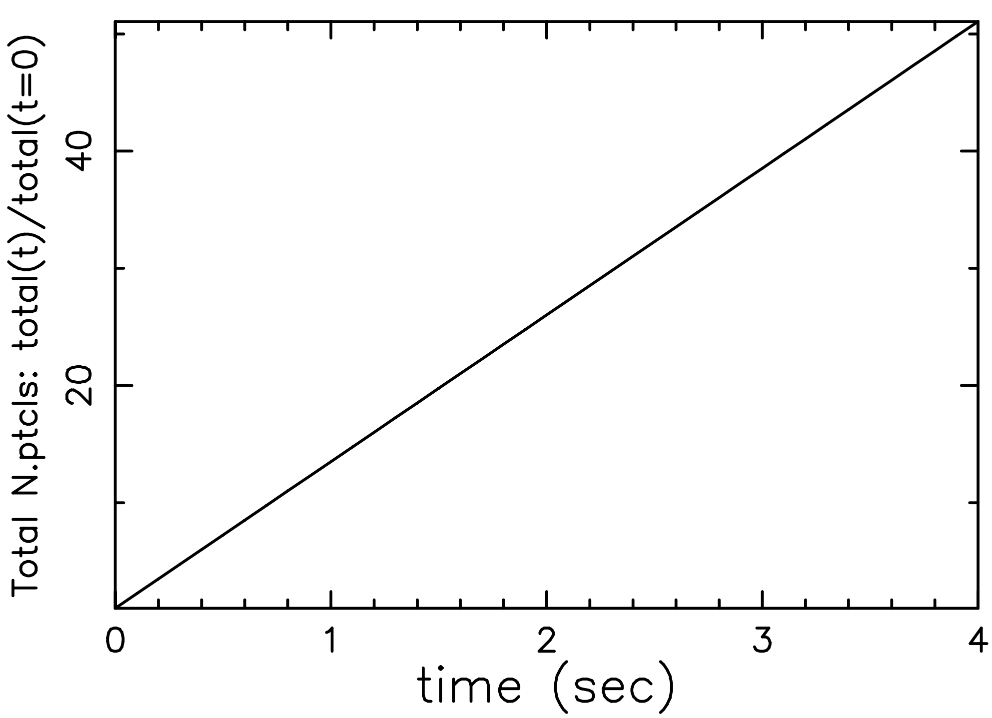
RF POWER (integr. up to rho or psi) (WATTS)

Solid–bold: total absorbed RF [powurfi(*,0)]
Other: RF general ions (each) [sorpw_rfi]



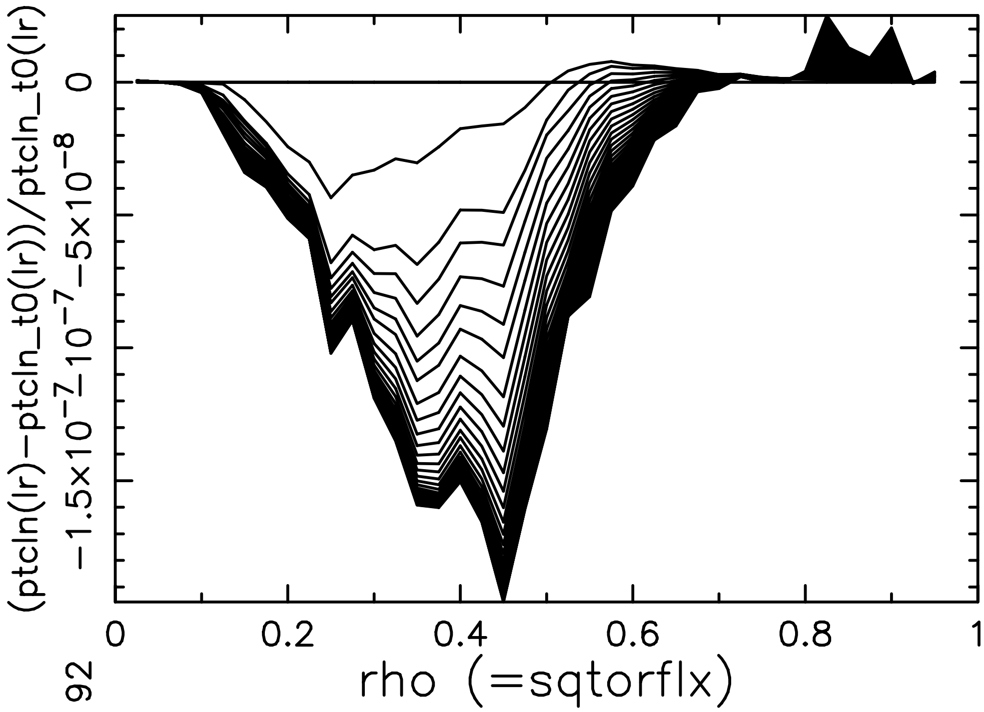
species no. 1 He general time step n= 40

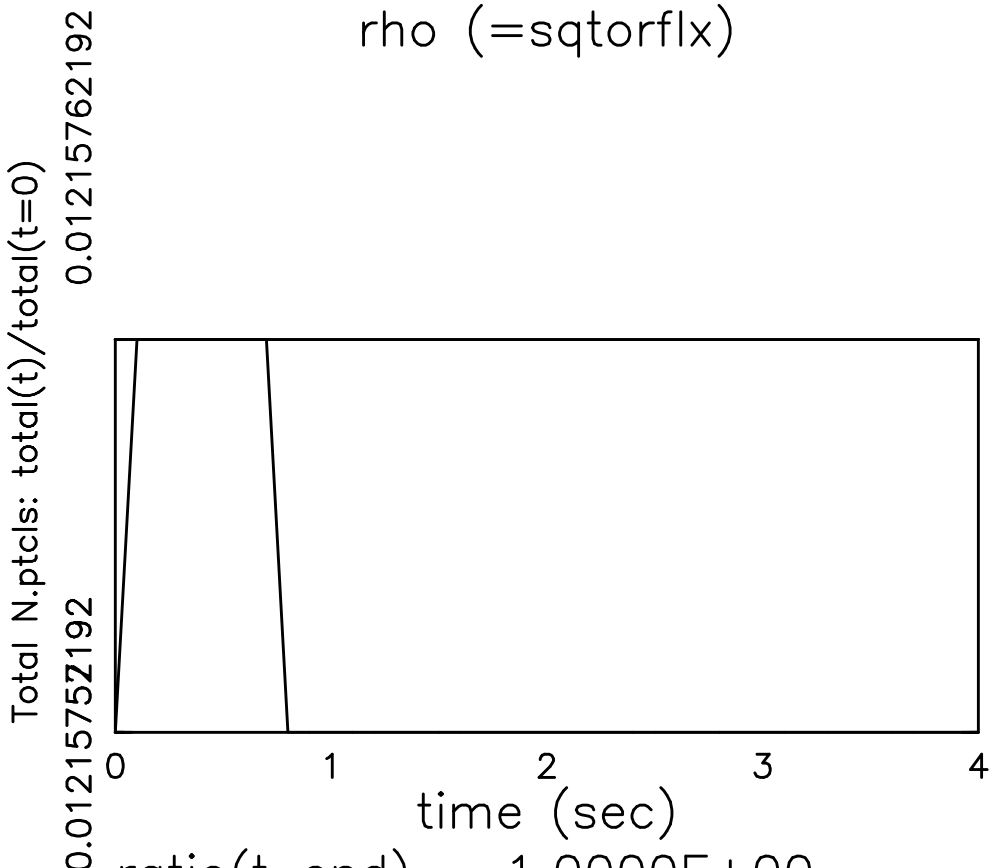




ratio(t_end)= 5.1057E+01

species no. 2 e general time step n= 40





ratio(t_end)= 1.0000E+00