```
[G4] ==============
[G4] G4EventManager::ProcessOneEvent()
[G4] ============
[G4] 1 primaries are passed from G4EventTransformer
[G4] !!!!!!! Now start processing an event !!!!!!!
[G4]
    ****************
[G4]
[G4] * G4Track Information: Particle = e+, Track ID = 1, Parent ID = 0
[G4]
[G4]
[G4] Step# X(mm)
                     Y(mm)
                                Z(mm)
                                          KinE(MeV)
                                                     dE(MeV)
                                                               StepLeng
                                                                          TrackLeng
                                                                                     NextVolume
                                                                                                          ProcName
[G4]
      0
            0.00808
                       -0.0142
                                  0.0188
                                             0.286
                                                         0
                                                                   0
                                                                              0
                                                                                     pointSource phys
                                                                                                          initStep
[G4]
      1
             -0.031
                       0.0498
                                  0.0216
                                             0.269
                                                       0.0168
                                                                 0.0783
                                                                            0.0783
                                                                                     waterPhantom_phys
                                                                                                          Transportation
[G4]
       2
             -0.105
                        0.193
                                 -0.00224
                                             0.232
                                                       0.0368
                                                                  0.171
                                                                             0.249
                                                                                     waterPhantom_phys
                                                                                                           MultipleScattering
             -0.101
                        0.493
                                  -0.0296
                                                        0.232
                                                                  0.545
                                                                             0.794
                                                                                     waterPhantom_phys
                                                                                                           ElectronIonisation
[G4]
                                              0
[G4]
             -0.101
                        0.493
                                  -0.0296
                                               0
                                                                             0.794
                                                                                     waterPhantom phys
                                                                                                           annihil
[G4] Track (trackID 1, parentID 0) is processed with stopping code 2
[G4]
[G4] * G4Track Information: Particle = gamma, Track ID = 3, Parent ID = 1
                                                                          (this is the first annihilation photon)
[G4]
[G4] Step# X(mm)
                     Y(mm)
                                Z(mm)
                                          KinE(MeV)
                                                     dE(MeV)
                                                               StepLeng
                                                                          TrackLeng
                                                                                     NextVolume
                                                                                                          ProcName
[G4]
      0
             -0.101
                        0.493
                                 -0.0296
                                             0.509
                                                         n
                                                                   Ω
                                                                              0
                                                                                     waterPhantom_phys
                                                                                                          initStep
[G4]
      1
              1.85
                        0.77
                                  -0.044
                                             0.509
                                                         O
                                                                   1.97
                                                                             1.97
                                                                                     world phys
                                                                                                          Transportation
[G4]
      2
              40.9
                        6.32
                                  -0.333
                                             0.509
                                                         n
                                                                   39.5
                                                                             41.4
                                                                                     cylindricalPET_phys
                                                                                                           Transportation
[G4]
      3
                                  -0.337
                                             0.509
                                                                  0.521
                                                                             41.9
                                                                                     LSO phys
                                                                                                           Transportation
              42.3
[G4]
      4
                        6.53
                                  -0.344
                                             0.287
                                                                  0.923
                                                                             42.9
                                                                                     LSO phys
                                                                                                           Compton
[G4]
              42.4
                        6.53
                                  -0.432
                                             0.164
                                                                 0.0906
                                                                              43
                                                                                     LSO phys
                                                                                                           Compton
[G4]
      6
              42.4
                        6.54
                                  -0.396
                                              0
                                                       0.0633
                                                                  0.067
                                                                              43
                                                                                     LSO phys
                                                                                                           PhotoElectric
[G4] Track (trackID 3, parentID 1) is processed with stopping code 2
[G4]
[G4]
     * G4Track Information: Particle = e-, Track ID = 6, Parent ID = 3
[G4] *****
                     Y(mm)
[G4] Step# X(mm)
                               Z(mm)
                                          KinE(MeV)
                                                     dE(MeV)
                                                               StepLeng
                                                                          TrackLeng
                                                                                     NextVolume
                                                                                                           ProcName
                                 -0.396
                                             0.101
                                                         0
                                                                   0
                                                                              0
                                                                                     LSO_phys
[G4]
            42.4
                                                                                                          initStep
[G4]
      1
              42.4
                        6.54
                                  -0.398
                                               0
                                                       0.101
                                                               0.0344
                                                                            0.0344
                                                                                     LSO_phys
                                                                                                           Electronionisation
[G4] Track (trackID 6, parentID 3) is processed with stopping code 2
[G4]
[G4]
[G4] * G4Track Information: Particle = e-, Track ID = 5, Parent ID = 3
[G4]
                                                     dE(MeV)
                                          KinE(MeV)
                                                                          TrackLeng
[G4] Step# X(mm)
                     Y(mm)
                               Z(mm)
                                                               StepLeng
                                                                                     NextVolume
                                                                                                          ProcName
                                             0.123
                                                         0
                                                                    0
                                                                              0
[G4]
             42.4
                     6.53
                                 -0.432
                                                                                     LSO_phys
                                                                                                          initStep
[G4]
              42.4
                        6.53
                                  -0.437
                                              0
                                                       0.123
                                                                 0.0477
                                                                            0.0477
                                                                                     LSO_phys
                                                                                                           Electronlonisation
[G4] Track (trackID 5, parentID 3) is processed with stopping code 2
[G4]
[G4] * G4Track Information: Particle = e-, Track ID = 4, Parent ID = 3
[G4]
                                          KinE(MeV)
                                                     dE(MeV)
                                                               StepLeng
[G4] Step# X(mm)
                     Y(mm)
                               Z(mm)
                                                                          TrackLeng
                                                                                     NextVolume
                                                                                                          ProcName
                                                                                                          initStep
              42.3
                                  -0.344
                                                                    0
                                                                              0
[G4]
      0
                        6.53
                                             0.222
                                                         0
                                                                                     LSO_phys
                                  -0.328
                                                                 0.0464
                                                                                                           Bremsstrahlung
[G4]
              42.3
                        6.54
                                            0.0689
                                                        0.105
                                                                            0.0464
                                                                                     LSO_phys
      1
                                                       0.0689
                                                                 0.0183
                                                                                                          ElectronIonisation
[G4]
      2
              42.3
                        6.54
                                  -0.326
                                              0
                                                                            0.0647
                                                                                     LSO_phys
[G4] Track (trackID 4, parentID 3) is processed with stopping code 2
[G4]
[G4] * G4Track Information: Particle = e-, Track ID = 7, Parent ID = 4
NextVolume
[G4] Step# X(mm)
                     Y(mm)
                               Z(mm)
                                          KinE(MeV)
                                                     dE(MeV)
                                                               StepLeng
                                                                          TrackLeng
                                                                                                          ProcName
[G4]
                        6.54
                                  -0.328
                                            0.0474
                                                         0
                                                                   0
                                                                              0
                                                                                     LSO phys
                                                                                                          initStep
             42.3
[G4]
              42.2
                        6.43
                                  -0.0169
                                              0
                                                       0.0109
                                                                  0.379
                                                                             0.379
                                                                                     LSO_phys
                                                                                                          PhotoElectric
[G4] Track (trackID 7, parentID 4) is processed with stopping code 2
```

****		****		****	***			****	
* G4Tr	ack Informat	ion: Particle =	e- Track ID	= 8. Parent ID	= 7				
*****			•	•	*******	*******	*******	*******	****
Step#	X(mm)	Y(mm)	Z(mm)	KinE(MeV)	dE(MeV)	StepLeng	TrackLeng	NextVolume	ProcName
0	42.2	6.43	-0.0169	0.0365	0	0	0	LSO_phys	initStep
1	42.2	6.43	-0.0164	0	0.0365	0.00628	0.00628	LSO_phys	ElectronIonisation
Track (	trackID 8, pa	rentID 7) is p	rocessed witl	h stopping coo	le 2				
		******				*****			
* G41r				•		******	•	the state of the s	<u> </u>
Sten#							Trackl eng	NextVolume	ProcName
•	, ,	. ,					•		initStep
								=. ,	Transportation
2								<b>=.</b> ,	Transportation
3	-41.4							, _, ,	Transportation
4	-48	-6.69	0.27	0.513	C	6.61	48.4	box2_phys	Transportation
5	-48.5	-6.77	0.273	0.513	C	0.539	48.9	LSO_phys	Transportation
6	-49	-6.85	0.276	0	0.0633	0.548	49.5	LSO_phys	PhotoElectric
Track (	trackID 2, pa	rentID 1) is p	rocessed witl	h stopping coo	le 2				
						*****	*****	*******	****
			,	,					
									Dun a Nama
•	, ,	, ,	, ,	_ ` ′			•		ProcName
	_							<u> </u>	initStep  Bremsstrahlung
								<del></del> -	Electronionisation
						0.22	0.220	250_piiy5	Licetionionisation
(	, ,,	-, -, -,							
*****	******	******	******	******	******	******	******	*******	****
*****					******				
	*******	********	*******	*****		********	******	*******	****
	X(mm)	********* Y(mm)	******** Z(mm)	KinE(MeV)	dE(MeV)	********** StepLeng	************** TrackLeng	**************************************	***** ProcName
	X(mm) -49	Y(mm) -6.85			dE(MeV) 0	StepLeng 0			***** ProcName initStep
Step# 0 1	X(mm) -49 -48.9	Y(mm) -6.85 -7.43	Z(mm) 0.278 0.478	KinE(MeV) 0.116 0	dE(MeV) 0 0.0633	StepLeng	TrackLeng	NextVolume	
Step# 0 1	X(mm) -49 -48.9	Y(mm) -6.85 -7.43	Z(mm) 0.278 0.478	KinE(MeV) 0.116	dE(MeV) 0 0.0633	StepLeng 0	TrackLeng 0	NextVolume LSO_phys	initStep
Step# 0 1	X(mm) -49 -48.9	Y(mm) -6.85 -7.43	Z(mm) 0.278 0.478 processed wi	KinE(MeV) 0.116 0 th stopping co	dE(MeV) 0 0.0633 ode 2	StepLeng 0 0.632	TrackLeng 0	NextVolume LSO_phys	initStep
Step# 0 1 Track (*******	X(mm) -49 -48.9 trackID 10, p	Y(mm) -6.85 -7.43 arentID 9) is	Z(mm) 0.278 0.478 processed wi	KinE(MeV) 0.116 0 th stopping co	dE(MeV) 0 0.0633 de 2	StepLeng 0 0.632	TrackLeng 0	NextVolume LSO_phys	initStep
Step# 0 1 Track (*******	X(mm) -49 -48.9 trackID 10, p *******	Y(mm) -6.85 -7.43 arentID 9) is   *************ion: Particle =	Z(mm) 0.278 0.478 processed wi	KinE(MeV) 0.116 0 th stopping co	dE(MeV) 0 0.0633 de 2	StepLeng 0 0.632	TrackLeng 0	NextVolume LSO_phys	initStep
Step# 0 1 Track (************************************	X(mm) -49 -48.9 trackID 10, p	Y(mm)  -6.85  -7.43 arentID 9) is    ************* ion: Particle =  ***********************************	Z(mm) 0.278 0.478 processed wi ************************************	KinE(MeV) 0.116 0 th stopping cc ********* = 11, Parent I **********	dE(MeV) 0 0.0633 de 2 ************************************	StepLeng 0 0.632	TrackLeng 0 0.632	NextVolume LSO_phys LSO_phys	initStep PhotoElectric  *****
Step# 0 1 Track (******* * G4Tr3 ****** Step#	X(mm) -49 -48.9 trackID 10, p ******************** X(mm)	Y(mm) -6.85 -7.43 arentID 9) is   ********** ion: Particle = ******** Y(mm)	Z(mm) 0.278 0.478 processed wi ************************************	KinE(MeV) 0.116 0 th stopping cc ******** = 11, Parent I ******* KinE(MeV)	dE(MeV) 0 0.0633 dd 2 **********************************	StepLeng 0 0.632 ************************************	TrackLeng 0 0.632 ************************************	NextVolume LSO_phys LSO_phys  ***********************************	initStep PhotoElectric  *****  ProcName
Step# 0 1 Track (******* * G4Track ****** Step# 0	X(mm)  -49  -48.9  trackID 10, p  *********  ack Informat  *********  X(mm)  -48.9	Y(mm) -6.85 -7.43 arentID 9) is   ********* **** Y(mm) -7.43	Z(mm) 0.278 0.478 processed wi ************************************	KinE(MeV) 0.116 0 th stopping cc ******** = 11, Parent I ******* KinE(MeV) 0.0529	dE(MeV) 0 0.0633 dd 2 **********************************	StepLeng 0 0.632 ************************************	TrackLeng 0 0.632 ************************************	NextVolume LSO_phys LSO_phys  ***********************************	initStep PhotoElectric  *****  ProcName initStep
Step# 0 1 Track (****** * G4Tr: ***** Step# 0 1	X(mm) -49 -48.9 trackID 10, p ********* ack Informat ******** X(mm) -48.9 -48.9	Y(mm) -6.85 -7.43 arentID 9) is   ********* **** **** Y(mm) -7.43 -7.43	Z(mm) 0.278 0.478 processed wi ************************************	KinE(MeV) 0.116 0 th stopping cc ******** = 11, Parent I ******* KinE(MeV)	dE(MeV) 0 0.0633 dde 2 ************************************	StepLeng 0 0.632 ************************************	TrackLeng 0 0.632 ************************************	NextVolume LSO_phys LSO_phys  ***********************************	initStep PhotoElectric  *****  ProcName
	****** Step# 0 1 Track (  ****** * G4Tr ***** Step# 0 1 2 3 4 5 6 Track (  ****** * G4Tr ***** Step# 0 1 2 Track (  ****** * G4Tr ***** * G4Tr *****	**************************************	**************************************	**************************************	**************************************	Step# X(mm) Y(mm) Z(mm) KinE(MeV) dE(MeV) 0 42.2 6.43 -0.0169 0.0365 0 1 42.2 6.43 -0.0164 0 0.0365  Track (trackID 8, parentID 7) is processed with stopping code 2  ***********************************	**************************************	Step# X(mm) Y(mm) Z(mm) KinE(MeV) dE(MeV) StepLeng TrackLeng 0 42.2 6.43 -0.0169 0.0365 0 0 0 0 0 0.00628  Track (trackID 8, parentID 7) is processed with stopping code 2  ***********************************	Step#   X(mm)   Y(mm)   Z(mm)   XinE(MeV)   dE(MeV)   StepLeng   TrackLeng   NextVolume   O   42.2   6.43   -0.0169   0.0365   0   0   0   U.SO_phys   D.00628   O.00628   U.SO_phys   D.00628   U.SO_phys   U.SO_phys   D.00628   U.SO_phys   U.SO_phys   U.SO_phys

[G4] Terminate current event processing