

Steel vessel gamma ray background

Geometry: 2m\*2m cylinder

	U238 chain		
	Pb214	Bi214	Bi210
Total	25000000	25000000	25000000
Any Signal	6476648	12201530	166861
Crystal Signal(0-10 KeV)	34	162	1
Veto Scintillator (>100 KeV)	13	4	1
Eff Any Signal	0.25906592	0.4880612	0.00667444
Eff Crystal Signal(0-10 KeV)	0.00000136	0.00000648	0.00000004
Eff Veto Scintillator (>100 KeV)	0.00000052	0.00000016	0.00000004
cpd/Kg/KeV/(mBq/Kg)	0.00037337	0.001779	1.0981E-05
cpd/Kg/KeV/(mBq/Kg) Veto	0.000142759	4.3926E-05	1.0981E-05

60\*60\*24/1000\*H3\*C13/L3/10

S536 (mBq/Kg)	3.7	3.7	3.7
cpd/Kg/KeV	0.000528208	0.00016253	4.0631E-05
S786 (mBq/Kg)	1.2	1.2	1.2
cpd/Kg/KeV	0.000171311	5.2711E-05	1.3178E-05
mBq/Kg to have cpd/Kg/KeV<0.001	2.678311082	0.56211467	91.0625768
Same with Veto	7.0048136	22.7656442	91.0625768

dric vessel 1 cm thick Vessel mass 1492 kg 9 crystals for 46.95507

U235 chain (???)			Th232 chain			K40
Pb211	Tl207	Ac228	Pb212	Bi212	Tl208	
25000000	25000000	25000000	25000000	25000000	25000000	100000000
1244523	273167	1.26E+07	4510980	1490164	18089410	5907231
8	0.9	101	4	14	268	67
0.9	0.9	5	0.9	1	8	1
0.04978092	0.01092668	0.504114	0.1804392	0.05960656	0.7235764	0.05907231
0.00000032	3.6E-08	0.00000404	0.00000016	0.00000056	0.00001072	0.00000067
3.6E-08	3.6E-08	0.00000002	3.6E-08	0.00000004	0.00000032	0.00000001
8.7852E-05	9.8833E-06	0.00110913	4.3926E-05	0.00015374	0.00294303	0.00018394
9.8833E-06	9.8833E-06	5.4907E-05	9.8833E-06	1.0981E-05	8.7852E-05	2.7454E-06

0	0	0.4	0.4	0.4	0.4	0.12
0	0	2.1963E-05	3.9533E-06	4.3926E-06	3.5141E-05	3.2944E-07
0	0	4.1	4.1	4.1	4.1	0.09
0	0	0.00022512	4.0522E-05	4.5024E-05	0.00036019	2.4708E-07

11.3828221	101.180641	0.90160967	22.7656442	6.50446977	0.33978573	5.43657175
101.180641	101.180641	18.2125154	101.180641	91.0625768	11.3828221	364.250307

a total of  
kg

Vessel mass f  
50265.5  
ATTENTION S

Cs137      Co60

25000000	25000000
9271645	17240570
66	293
6	7
0.3708658	0.6896228
0.00000264	0.00001172
0.00000024	0.00000028
0.00072478	0.00321757
6.5889E-05	7.687E-05

0.9 means <1. No event has been observed

Total

0	0
0	0 0.00079714
0	0
0	0 0.0009083

1.37973601	0.31079378
15.1770961	13.0089395

from simulation??? Why so large???

kg

SOMETHING WRONG IN THE SIMULATION CALCULATRION. THE MASS GIVE IS THE ONE WITHC



OUT THE SCINTILLATOR BEING REMOVED FROM THE MIDDLE OF THE VESSEL

