

降水平面線源によるエネルギー分布 Energy distribution due to precipitation

*** MONARZA/G2 *** Pb-214(RaB) & Bi-214(RaC)							
Plane source							
Detctor at 1 m above the ground							
1,000,000 histories each							
Bin No.	Energy (MeV)				Flux (/cm ² .s.MeV)		
	Ei	Eu	<E>	ΔE	1 Bq/cm ² RaB	1 Bq/cm ² RaC	
1	0.050	0.075	0.063	0.025	3.08E+01	1.14E+01	
2	0.075	0.100	0.087	0.025	2.27E+01	1.04E+01	
3	0.100	0.125	0.113	0.025	7.43E+00	8.31E+00	
4	0.125	0.150	0.138	0.025	6.72E+00	6.70E+00	
5	0.150	0.175	0.162	0.025	5.79E+00	5.42E+00	
6	0.175	0.200	0.188	0.025	5.66E+00	5.85E+00	
7	0.200	0.228	0.214	0.028	2.51E+00	4.91E+00	
8	0.228	0.252	0.240	0.024	6.90E+00	3.90E+00	
9	0.252	0.281	0.267	0.029	2.64E+00	2.92E+00	
10	0.281	0.309	0.295	0.028	1.37E+01	2.32E+00	
11	0.309	0.337	0.323	0.028	1.21E+00	1.97E+00	
12	0.337	0.367	0.352	0.030	2.03E+01	1.68E+00	
13	0.367	0.406	0.387	0.039	0.00E+00	1.87E+00	
14	0.406	0.445	0.425	0.039	0.00E+00	1.54E+00	
15	0.445	0.490	0.468	0.045	0.00E+00	1.61E+00	
16	0.490	0.530	0.510	0.040	0.00E+00	1.41E+00	
17	0.530	0.584	0.557	0.054	0.00E+00	1.68E+00	
18	0.584	0.638	0.611	0.054	0.00E+00	1.65E+01	
19	0.638	0.685	0.661	0.047	0.00E+00	1.06E+00	
20	0.685	0.728	0.707	0.043	0.00E+00	8.31E-01	
21	0.728	0.770	0.749	0.042	0.00E+00	1.98E+00	
22	0.770	0.822	0.796	0.052	0.00E+00	1.82E+00	
23	0.822	0.886	0.854	0.064	0.00E+00	5.57E-01	
24	0.886	0.936	0.911	0.050	0.00E+00	9.73E-01	
25	0.936	0.996	0.966	0.060	0.00E+00	8.80E-01	
26	0.996	1.042	1.019	0.046	0.00E+00	5.28E-01	
27	1.042	1.087	1.065	0.045	0.00E+00	5.44E-01	
28	1.087	1.153	1.120	0.066	0.00E+00	5.36E+00	
29	1.153	1.220	1.187	0.067	0.00E+00	1.05E+00	
30	1.220	1.288	1.254	0.068	0.00E+00	1.90E+00	
31	1.288	1.355	1.321	0.067	0.00E+00	6.12E-01	
32	1.355	1.422	1.389	0.067	0.00E+00	2.58E+00	
33	1.422	1.500	1.461	0.078	0.00E+00	5.44E-01	
34	1.500	1.574	1.537	0.074	0.00E+00	8.59E-01	
35	1.574	1.647	1.611	0.073	0.00E+00	4.90E-01	
36	1.647	1.721	1.684	0.074	0.00E+00	7.48E-01	
37	1.721	1.809	1.765	0.088	0.00E+00	4.02E+00	
38	1.809	1.895	1.852	0.086	0.00E+00	7.43E-01	
39	1.895	1.982	1.938	0.087	0.00E+00	5.76E-02	
40	1.982	2.067	2.025	0.085	0.00E+00	1.56E-02	
41	2.067	2.154	2.111	0.087	0.00E+00	3.05E-01	
42	2.154	2.256	2.205	0.102	0.00E+00	1.06E+00	
43	2.256	2.356	2.306	0.100	0.00E+00	6.03E-02	
44	2.356	2.458	2.407	0.102	0.00E+00	2.13E-01	
45	2.458	2.558	2.508	0.100	0.00E+00	1.47E-01	
46	2.558	2.672	2.615	0.114	0.00E+00	0.00E+00	
47	2.672	2.786	2.729	0.114	0.00E+00	0.00E+00	

降水平面線源による高度分布 Height distribution due to precipitation

Uniformly distributed plane source Gamma rays

*** MONARIZA/G2 ***

1 Bq/cm² of RaB + 1 Bq/cm² of RaC

Height (cm)	Flux(/cm ² ·s)	Dose Rate(nGy/h)
1	1.336E+01	1.262E+02
100	8.132E+00	6.719E+01
1000	5.664E+00	3.968E+01
3000	4.273E+00	2.571E+01
10000	2.377E+00	1.166E+01
30000	5.411E-01	2.422E+00

降水平面線源による角度分布 Angular distribution due to precipitation

Uniformly distributed plane source

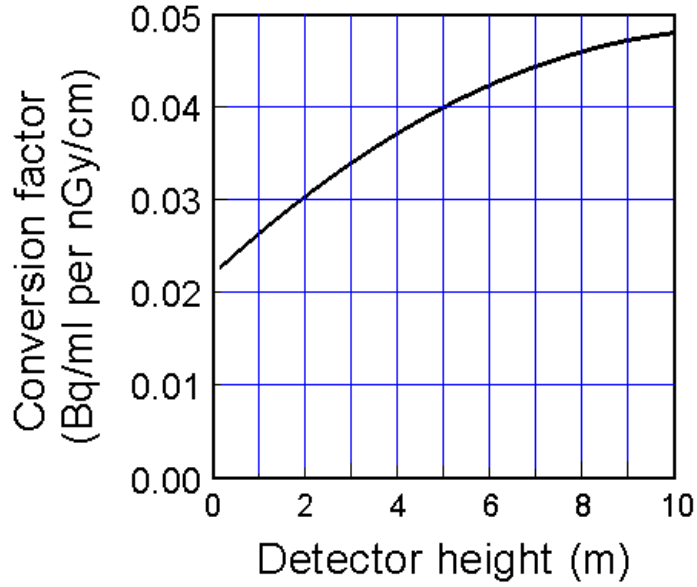
Gamma rays flux at 1 m above ground level

*** MONARIZA/G2 *** 1 Bq/cm² of RaB + 1 Bq/cm² of RaC
--- At 100 (cm) ---

Angle(Degrees)	Flux(/cm ² ·s·sr)	Dose Rate(nGy/h/sr)
0 - 10	3.588E-01	2.417E+00
10 - 20	3.651E-01	2.518E+00
20 - 30	3.890E-01	2.660E+00
30 - 40	4.197E-01	2.936E+00
40 - 50	4.743E-01	3.447E+00
50 - 60	5.614E-01	4.269E+00
60 - 70	7.159E-01	5.835E+00
70 - 80	1.051E+00	9.363E+00
80 - 90	2.857E+00	3.222E+01
90 - 100	4.547E-01	2.152E+00
100 - 110	3.460E-01	1.254E+00
110 - 120	2.956E-01	8.655E-01
120 - 130	2.628E-01	6.629E-01
130 - 140	2.409E-01	5.535E-01
140 - 150	2.255E-01	4.930E-01
150 - 160	2.166E-01	4.501E-01
160 - 170	2.031E-01	4.071E-01
170 - 180	1.969E-01	3.899E-01

降水放射能と線量上昇 Rainwater radioactivity and dose increment

単位降水量当たりの線量率上昇分に対する
雨水比放射能 (RaB+RaC:平衡仮定)
(1降雨当たり)



湊 進 (1984) 降水による環境γ線の変動, 環境放射線研究の
現状と展望, 日本原子力学会「環境放射線」研究専門委員会,
pp.87-97