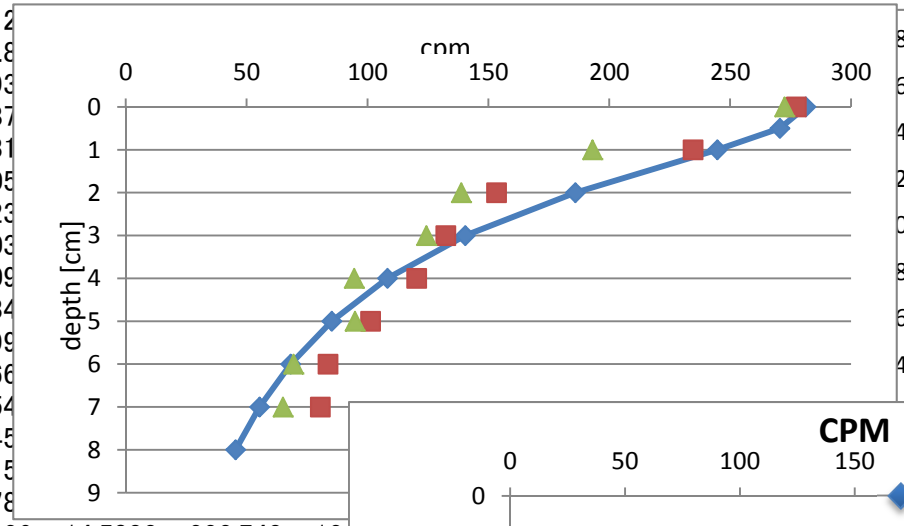
土壌放射線量の補正（数値積分法の練習）　2014.8.6　mizo

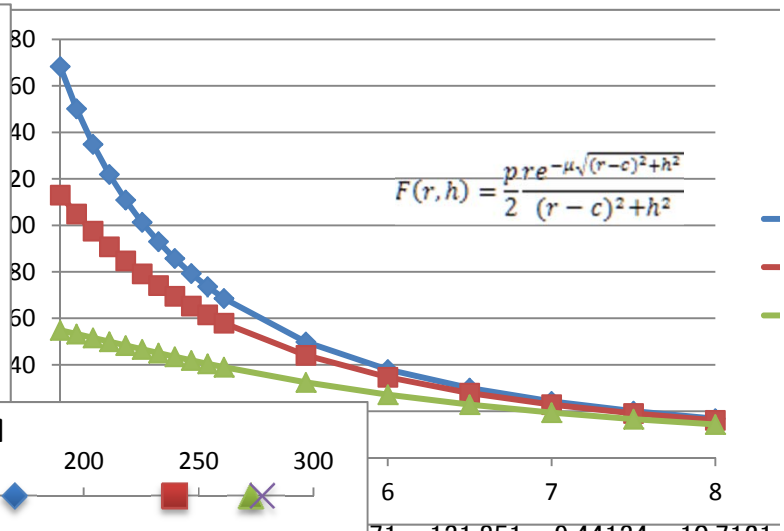
p=	2.20E+02
μ =	0.1
c=	2.5

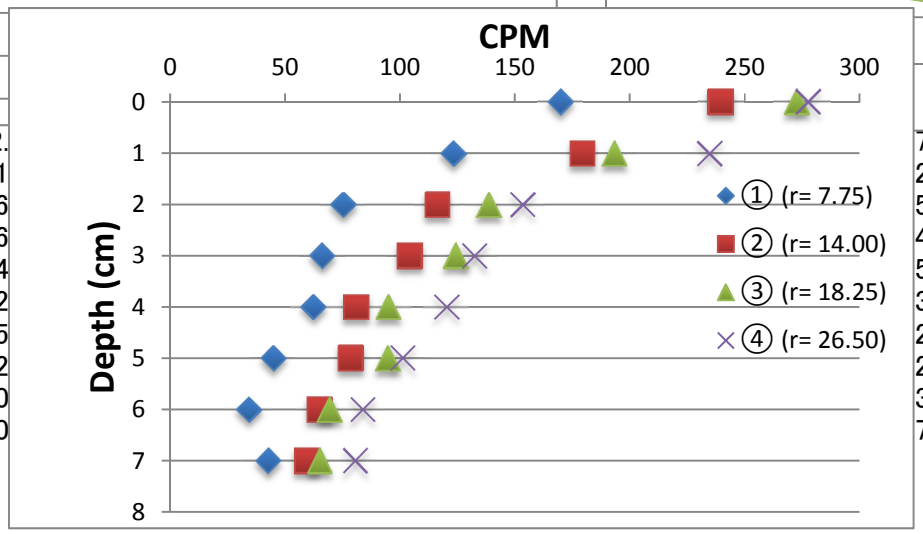
$$I(r,h)=\int_a^b \frac{pe^{-\mu\sqrt{(r-c)^2+h^2}}}{4\pi\{(r-c)^2+h^2\}}2\pi r dr$$

pをどう扱うかは今後の課題。
ここではとりあえず、適当に入力してある。

h=	0	0.5	1	2	3
r	F(r)	F(r)			
4	168.316	150.26	113.051	54.8276	27.9662
4.1	150.12				
4.2	134.8				
4.3	121.93				
4.4	110.87				
4.5	101.31				
4.6	93.005				
4.7	85.723				
4.8	79.303				
4.9	73.609				
5	68.534				
5.5	49.799				
6	37.966				
6.5	29.954				
7	24.245				
7.5	20.015				
8	16.78				
9	12.2326	14.5083	223.748	12.	
10	9.23739	10.735	234.483	9.1	
12	5.65649	14.8939	249.377	5.6	
14	3.68711	9.3436	258.721	3.6	
16	2.5035	6.19061	264.911	2.4	
20	1.24834	7.50367	272.415	1.2	
25	0.57254	4.55219	276.967	0.5	
30	0.27896	2.12874	279.096	0.2	
40	0.07358	1.76271	280.858	0.0	
50	0.02109	0.47337	281.332	0.0	
			281.332		







71	131.851	9.44134	10.7121
29	141.473	7.51623	8.47879
58	155.179	4.91112	12.4274
42	164.001	3.32184	8.23296
52	169.933	2.3084	5.63025
37	177.197	1.18213	6.98107
29	181.65	0.55145	4.33395
29	183.747	0.27122	2.05666
34	185.489	0.07225	1.71731
75	185.959	0.02081	0.46527
	185.959		

土壌放射線量の補正（行列）

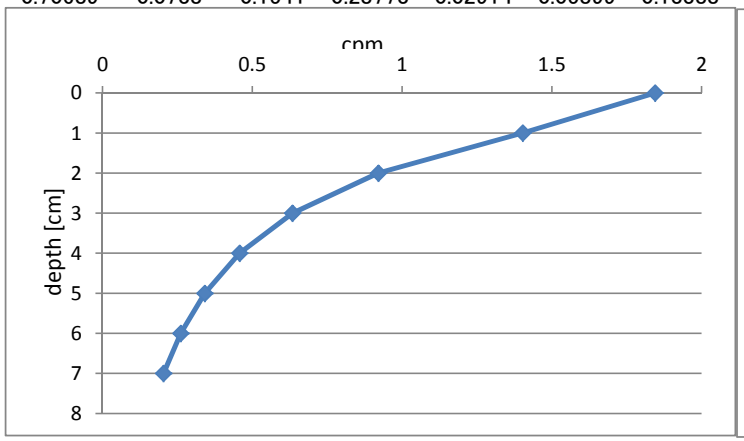
2014.8.9　　mizo

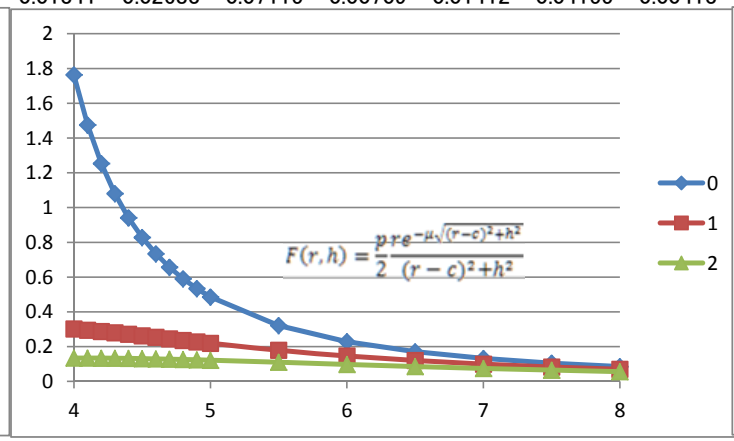
(8.9)
p=1として数値積分をして単位ベクトルを計算
各深さ毎の値を用いて行列表示

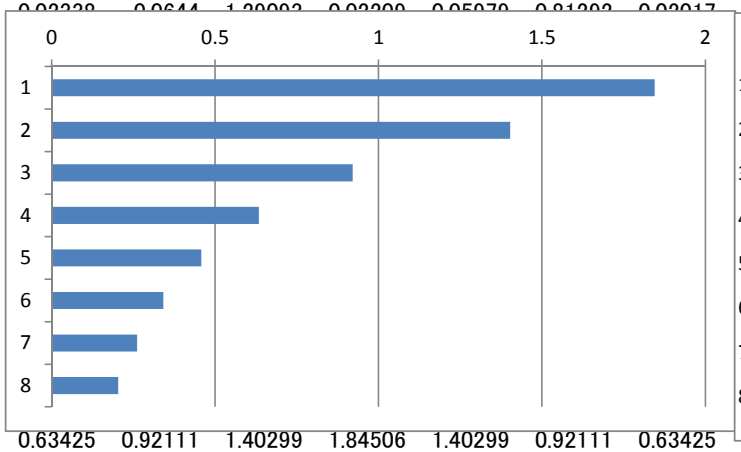
p=	1.00E+00
μ =	0.126
c=	3

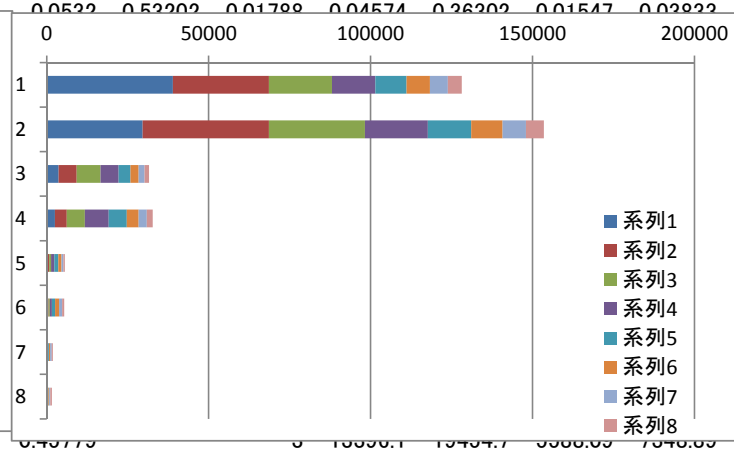
$$I(r,h)=\int_a^b \frac{pe^{-\mu\sqrt{(r-c)^2+h^2}}}{4\pi\{(r-c)^2+h^2\}}2\pi r dr$$

h=	0			1			2			3			4			5		
r	F(r)			F(r)														
4	1.76323			0.83678			0.30179			0.13427			0.06998			0.04046		
4.1	1.47494	0.16191	0.16191	0.76915	0.0803	0.0803	0.29513	0.02985	0.02985	0.13424	0.01343	0.01343	0.07063	0.00703	0.00703	0.04103	0.00407	0.00407
4.2	1.25369	0.13643	0.29834	0.70689	0.0738	0.1541	0.28773	0.02914	0.05899	0.13388	0.01341	0.02683	0.07115	0.00709	0.01412	0.04155	0.00413	0.0082
4.3	1.07998	0.11668	0.41502															
4.4	0.94093	0.10105	0.51607															
4.5	0.82779	0.08844	0.60451															
4.6	0.7344	0.07811	0.68261															
4.7	0.65636	0.06954	0.75215															
4.8	0.59043	0.06234	0.81449															
4.9	0.53418	0.05623	0.87072															
5	0.48578	0.051	0.92172															
5.5	0.32111	0.20172	1.12344															
6	0.22841	0.13738	1.26082															
6.5	0.1707	0.09978	1.3606															
7	0.13215	0.07571	1.43631															
7.5	0.10504	0.0593	1.49561															
8	0.08521	0.04756	1.54317															
9	0.05869	0.07195	1.61512															
10	0.04224	0.05047	1.66559															
12	0.02383	0.06607	1.73166															0.25536
14	0.01447	0.0383	1.76996															0.28129
16	0.0092	0.02367	1.79363															0.29888
20	0.00406	0.02653	1.82016															0.31997
25	0.00162	0.0142	1.83435															0.33208
30	0.00069	0.00575	1.84011															0.33722
40	0.00014	0.00412	1.84422															0.341
50	3E-05	0.00084	1.84506															0.3418
			1.84506															0.3418









[8x8行列]

C	h[cm]						
1.84506	0	1	0.63425	0.92111	1.40299	1.84506	1.40299	0.92111	0.63425
1.40299	1	2							
0.92111	2	3							
0.63425	3	4							

683
4
312.674
433.196
629.117
958.239