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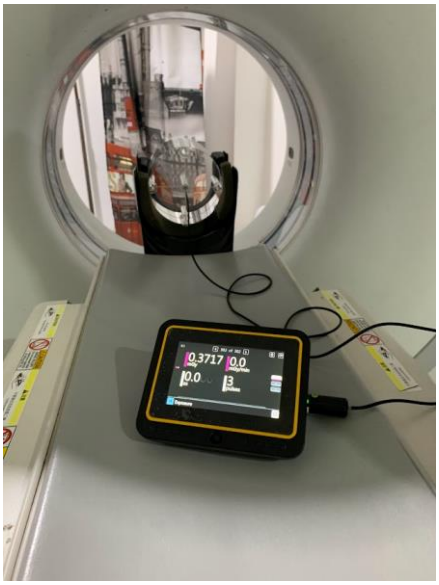
LAMPIRAN

Lampiran 1: Penempatan *phantom* pada *head holder* dengan panduan sinar laser

Lampiran 2: Penempatan detektor dan multimeter pada *phantom*



Lampiran 3: Pengaturan parameter *scan*

Lampiran 4: Hasil pengukuran keluaran dosis

Lampiran 5: Data hasil pengukuran keluaran dosis (kerma udara)

a. Nilai kerma udara pada waktu rotasi 1 detik

Tegangan Tabung (kV)	Waktu Rotasi (s)	Titik Bacaan	Nilai kerma udara tiap pengambilan data (mGy)				
			1	2	3	4	5
80	1	Pusat	2.69	2.57	2.71	2.77	2.73
		Jam 12	1.9	1.81	1.99	2.07	1.88
		Jam 3	2.36	2.28	2.48	2.26	2.42
		Jam 6	2.09	2.02	2.17	2.18	2.01
		Jam 9	1.58	1.47	1.69	1.49	1.64
100	1	Pusat	4.91	4.88	4.97	4.96	4.99
		Jam 12	4.04	4.01	4.13	4.12	4.01
		Jam 3	3.72	3.69	3.81	3.66	3.89
		Jam 6	4.52	4.47	4.61	4.63	4.48
		Jam 9	3.38	3.31	3.47	3.29	3.49
120	1	Pusat	6.37	6.29	6.42	6.48	6.49
		Jam 12	5.42	5.37	5.51	5.59	5.32
		Jam 3	5.77	5.66	5.81	5.62	5.84
		Jam 6	5.64	5.52	5.75	5.71	5.57
		Jam 9	5.34	5.28	5.41	5.25	5.49

b. Nilai kerma udara pada waktu rotasi 1.5 detik

Tegangan Tabung (kV)	Waktu Rotasi (s)	Titik Bacaan	Nilai kerma udara tiap pengambilan data (mGy)				
			1	2	3	4	5
80	1,5	Pusat	2.92	2.89	2.97	2.69	2.99
		Jam 12	2.78	2.18	2.38	2.35	2.16
		Jam 3	2.66	2.58	2.72	2.57	2.79
		Jam 6	2.41	2.34	2.59	2.52	2.32
		Jam 9	2.16	2.06	2.22	2.08	2.29
100	1,5	Pusat	5.21	5.18	5.27	5.32	5.87
		Jam 12	4.32	4.29	4.41	4.47	4.23
		Jam 3	4.03	4.01	4.14	3.99	4.19
		Jam 6	4.56	4.49	4.66	4.67	4.45
		Jam 9	3.69	3.59	3.78	3.57	3.78
120	1,5	Pusat	6.53	6.46	6.63	6.69	6.67
		Jam 12	5.51	5.47	5.61	5.62	5.41
		Jam 3	5.87	5.72	5.91	5.75	5.97
		Jam 6	5.84	5.79	5.92	5.92	5.78
		Jam 9	5.64	5.57	5.72	5.26	5.77

c. Nilai kerma udara pada waktu rotasi 2 detik

Tegangan Tabung (kV)	Waktu Rotasi (s)	Titik Bacaan	Nilai kerma udara tiap pengambilan data (mGy)				
			1	2	3	4	5
80	2	Pusat	3.25	3.19	3.29	3.31	3.35
		Jam 12	2.89	2.78	2.91	2.95	2.78
		Jam 3	3.15	3.07	3.26	3.01	3.03
		Jam 6	2.88	2.79	2.92	2.91	2.97
		Jam 9	2.51	2.49	2.68	2.47	2.45
100	2	Pusat	5.51	5.48	5.58	5.69	5.62
		Jam 12	4.64	4.58	4.71	4.73	4.52
		Jam 3	4.36	4.27	4.42	4.28	4.49
		Jam 6	4.83	4.79	4.92	4.98	4.75
		Jam 9	4.01	4.01	4.12	4.01	4.19
120	2	Pusat	6.75	6.69	6.82	6.87	6.89
		Jam 12	5.64	5.57	5.71	5.77	5.52
		Jam 3	5.95	5.88	5.99	5.83	6.39
		Jam 6	5.99	5.89	5.98	6.34	5.81
		Jam 9	5.75	5.69	5.81	5.61	5.83

d. Nilai kerma udara pada variasi arus tabung 120 mA, 130 mA, dan 140 mA

Arus Tabung (mA)	Tegangan Tabung (kV)	Titik Bacaan	Nilai kerma udara tiap pengambilan data (mGy)				
			1	2	3	4	5
120	120	Pusat	6.55	6.49	6.63	6.67	6.701
		Jam 12	5.95	5.86	5.98	6.12	5.81
		Jam 3	6.13	6.02	6.22	6.05	6.28
		Jam 6	6.04	6.01	6.13	6.19	6.11
		Jam 9	5.72	5.68	5.85	5.61	5.88
130	120	Pusat	7.06	7.01	7.17	7.29	7.19
		Jam 12	6.492	6.39	6.59	6.57	6.31
		Jam 3	6.67	6.59	6.71	6.75	6.79
		Jam 6	6.57	6.47	6.61	6.52	6.42
		Jam 9	6.24	6.18	6.32	6.37	6.44
140	120	Pusat	8.67	8.59	8.77	8.79	8.81
		Jam 12	7.53	7.43	7.61	7.66	7.41
		Jam 3	7.72	7.74	7.81	7.72	7.91
		Jam 6	7.24	7.17	7.33	7.38	7.25
		Jam 9	7.65	7.59	7.71	7.59	7.79

Lampiran 6: Pengolahan data pengukuran

a. Perhitungan $CTDI_{100}$

$$CTDI_{100} = \frac{\text{Kerma udara} \times \text{panjang scanning} \times f_k}{\text{slice thickness} \times \text{jumlah gambar}}$$

$$CTDI_{100} = \frac{2.695 \times 18 \times 0.83}{5 \times 1}$$

$$CTDI_{100} = 8.05 \text{ mGy}$$

b. Perhitungan $CTDI_w$

$$CTDI_{rata-rata} = \frac{(CTDI_{tepi\,1} + CTDI_{tepi\,2} + CTDI_{tepi\,3} + CTDI_{tepi\,4})}{4}$$

$$CTDI_{rata-rata} = \frac{5.680 + 7.051 + 6.248 + 4.724}{4}$$

$$CTDI_{rata-rata} = 5.92 \text{ mGy}$$

$$CTDI_w = \frac{1}{3} CTDI_{100,c} + \frac{2}{3} CTDI_{100,p}$$

$$CTDI_w = \frac{1}{3}(8.05) + \frac{2}{3}(5.92)$$

$$CTDI_w = 2.683 + 3.950$$

$$CTDI_w = 6.633 \text{ mGy}$$

c. Perhitungan $CTDI_{vol}$

$$CTDI_{vol} = \frac{CTDI_w}{\text{pitch}}$$

$$CTDI_{vol} = \frac{6.633}{0.938}$$

$$CTDI_{vol} = 7.07 \text{ mGy}$$

d. Perhitungan DLP

$$DLP = CTDI_{vol} \times L$$

$$DLP = 7.07 \times 18 \text{ cm}$$

$$DLP = 127.3 \text{ mGy}$$

e. Perhitungan Reduksi Dosis

a. Untuk $CTDI_{vol}$

$$DR = \frac{CTDI_{vol\ FTC} - CTDI_{vol\ AEC}}{CTDI_{vol\ FTC}} \times 100\%$$

$$DR = \frac{19.7 - 7.1}{19.7} \times 100\%$$

$$DR = 0.639 \times 100\%$$

$$DR = 63.9\%$$

b. Untuk DLP

$$DR = \frac{DLP_{FTC} - DLP_{AEC}}{DLP_{FTC}} \times 100\%$$

$$DR = \frac{354.7 - 127.6}{354.7} \times 100\%$$

$$DR = 0.64 \times 100\%$$

$$DR = 64\%$$

Lampiran 7: Tabel titik presentase distribusi t

Pr	0.25	0.10	0.05	0.025	0.01	0.005	0.001
df	0.50	0.20	0.10	0.050	0.02	0.010	0.002
1	1.00000	3.07768	6.31375	12.70620	31.82052	63.65674	318.30884
2	0.81650	1.88562	2.91999	4.30265	6.96456	9.92484	22.32712
3	0.76489	1.63774	2.35336	3.18245	4.54070	5.84091	10.21453
4	0.74070	1.53321	2.13185	2.77645	3.74695	4.60409	7.17318
5	0.72669	1.47588	2.01505	2.57058	3.36493	4.03214	5.89343
6	0.71756	1.43976	1.94318	2.44691	3.14267	3.70743	5.20763
7	0.71114	1.41492	1.89458	2.36462	2.99795	3.49948	4.78529
8	0.70639	1.39682	1.85955	2.30600	2.89646	3.35539	4.50079
9	0.70272	1.38303	1.83311	2.26216	2.82144	3.24984	4.29681
10	0.69981	1.37218	1.81246	2.22814	2.76377	3.16927	4.14370
11	0.69745	1.36343	1.79588	2.20099	2.71808	3.10581	4.02470
12	0.69548	1.35622	1.78229	2.17881	2.68100	3.05454	3.92963
13	0.69383	1.35017	1.77093	2.16037	2.65031	3.01228	3.85198
14	0.69242	1.34503	1.76131	2.14479	2.62449	2.97684	3.78739
15	0.69120	1.34061	1.75305	2.13145	2.60248	2.94671	3.73283
16	0.69013	1.33676	1.74588	2.11991	2.58349	2.92078	3.68615
17	0.68920	1.33338	1.73961	2.10982	2.56693	2.89823	3.64577
18	0.68836	1.33039	1.73406	2.10092	2.55238	2.87844	3.61048
19	0.68762	1.32773	1.72913	2.09302	2.53948	2.86093	3.57940
20	0.68695	1.32534	1.72472	2.08596	2.52798	2.84534	3.55181
21	0.68635	1.32319	1.72074	2.07961	2.51765	2.83136	3.52715
22	0.68581	1.32124	1.71714	2.07387	2.50832	2.81876	3.50499
23	0.68531	1.31946	1.71387	2.06866	2.49987	2.80734	3.48496
24	0.68485	1.31784	1.71088	2.06390	2.49216	2.79694	3.46678
25	0.68443	1.31635	1.70814	2.05954	2.48511	2.78744	3.45019
26	0.68404	1.31497	1.70562	2.05553	2.47863	2.77871	3.43500
27	0.68368	1.31370	1.70329	2.05183	2.47266	2.77068	3.42103
28	0.68335	1.31253	1.70113	2.04841	2.46714	2.76326	3.40816
29	0.68304	1.31143	1.69913	2.04523	2.46202	2.75639	3.39624
30	0.68276	1.31042	1.69726	2.04227	2.45726	2.75000	3.38518
31	0.68249	1.30946	1.69552	2.03951	2.45282	2.74404	3.37490
32	0.68223	1.30857	1.69389	2.03693	2.44868	2.73848	3.36531
33	0.68200	1.30774	1.69236	2.03452	2.44479	2.73328	3.35634
34	0.68177	1.30695	1.69092	2.03224	2.44115	2.72839	3.34793
35	0.68156	1.30621	1.68957	2.03011	2.43772	2.72381	3.34005
36	0.68137	1.30551	1.68830	2.02809	2.43449	2.71948	3.33262
37	0.68118	1.30485	1.68709	2.02619	2.43145	2.71541	3.32563
38	0.68100	1.30423	1.68595	2.02439	2.42857	2.71156	3.31903
39	0.68083	1.30364	1.68488	2.02269	2.42584	2.70791	3.31279
40	0.68067	1.30308	1.68385	2.02108	2.42326	2.70446	3.30688

Lampiran 8: Hasil uji normalitas dan uji-t berpasangan

$\alpha = 0.05$

1. Arus Tabung 120 mA

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CTDIvol	.167	9	.200*	.906	9	.291
DLP	.166	9	.200*	.908	9	.304

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

b. Uji-t Berpasangan

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Reduksi Dosis pada CTDIvol (%) - Reduksi Dosis pada DLP (%)	.0556	.1130	.0377	-.0313	.1424	1.474	8	.179

2. Arus Tabung 130 mA

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CTDI	.167	9	.200*	.907	9	.293
DLP	.165	9	.200*	.909	9	.308

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

b. Uji-t Berpasangan

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Reduksi Dosis pada CTDIvol (%) - Reduksi Dosis pada DLP (%)	.1000	.1225	.0408	.0059	.1941	2.449	8	.040

3. Arus Tabung 140 mA

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CTDI	.167	9	.200*	.907	9	.296
DLP	.166	9	.200*	.908	9	.305

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

b. Uji-t Berpasangan

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Reduksi Dosis pada CTDIvol (%) - Reduksi Dosis pada DLP (%)	.1556	.1014	.0338	.0776	.2335	4.603	8	.002