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1 GeV リニアック検討資料

1 GeV LINAC DESIGN NOTE

題目 (TITLE) Parameters of JHP 200-MeV proton linac (mod)

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概要 (ABSTRACT)

200 MeV JHP 線型加速器のパラメーターPLA-96-1をわずかに修正したもの。クライストロンパワーの分配数を変えている。

KEY WORDS:

Ion source, RFQ, DTL, CCL, Magnet, Monitor, Beam Dynamics,
Transport, Vacuum, Cooling
Klystron, Low level rf, High power rf, Modulator
Control, Operation, Radiation, Others

SDTLforpower50.06intabtext

NKLN	NTK	N1	N2	NC	WIN	BETA	CLENG	TANKLEN	DRIFT	L-total	RF	Pb-30m/Pt-30m	Pb-60m/Pt-60m	EZERO	WG/m	ZS		
1	1	1	5	5	50.06	0.3142	29.2	148.13	90.55	148.13	0.35	0.127	0.477	0.254	0.604	3.86	2.86	75.86
	2	6	10	5	54.3	0.3262	30.3	153.61	93.8	392.29	0.366	0.13	0.497	0.26	0.626	3.86	2.83	75.24
	3	11	15	5	58.647	0.3379	31.4	158.96	96.97	645.05	0.382	0.133	0.515	0.266	0.648	3.86	2.8	74.63
2	4	16	20	5	63.093	0.3493	32.4	164.17	96.71	906.19	0.398	0.136	0.533	0.272	0.67	3.86	2.76	74.06
	5	21	25	5	67.623	0.3605	33.5	169.24	68.71	1142.1	0.413	0.138	0.551	0.276	0.689	3.86	2.72	73.5
	6	26	30	5	72.233	0.3713	34.5	174.18	70.66	1385	0.428	0.14	0.569	0.28	0.708	3.86	2.69	72.97
3	7	31	35	5	76.916	0.3818	35.4	178.99	72.56	1634.7	0.443	0.143	0.586	0.286	0.729	3.86	2.65	72.45
	8	36	40	5	81.666	0.3921	36.4	183.67	74.4	1890.9	0.458	0.144	0.602	0.288	0.746	3.86	2.62	71.92
	9	41	45	5	86.473	0.4021	37.3	188.22	76.2	2153.5	0.473	0.146	0.618	0.292	0.765	3.86	2.58	71.39
4	10	46	50	5	91.33	0.4117	38.2	192.64	77.94	2422.4	0.487	0.147	0.634	0.294	0.781	3.86	2.54	70.88
	11	51	55	5	96.232	0.4212	39	196.94	79.64	2697.2	0.502	0.148	0.65	0.296	0.798	3.86	2.51	70.38
5	12	56	60	5	101.18	0.4303	39.9	201.12	81.29	2978	0.516	0.149	0.665	0.298	0.814	3.86	2.47	69.9
	13	61	65	5	106.15	0.4393	40.7	205.18	82.89	3264.5	0.53	0.15	0.68	0.3	0.83	3.86	2.44	69.43
6	14	66	70	5	111.16	0.4479	41.5	209.13	84.44	3556.5	0.543	0.151	0.694	0.302	0.845	3.86	2.4	68.98
	15	71	75	5	116.18	0.4563	42.3	212.96	85.96	3853.9	0.557	0.151	0.708	0.302	0.859	3.86	2.37	68.54
7	16	76	80	5	121.23	0.4645	43	216.68	87.43	4156.5	0.57	0.152	0.722	0.304	0.874	3.86	2.34	68.11
	17	81	85	5	126.29	0.4724	43.8	220.31	88.85	4464.2	0.583	0.152	0.736	0.304	0.887	3.86	2.3	67.7
8	18	86	90	5	131.36	0.4801	44.5	223.83	90.24	4776.9	0.596	0.153	0.749	0.306	0.902	3.86	2.27	67.29
	19	91	95	5	136.45	0.4877	45.2	227.25	91.59	5094.4	0.609	0.153	0.762	0.306	0.915	3.86	2.24	66.9
9	20	96	100	5	141.55	0.495	45.8	230.59	92.91	5416.6	0.621	0.153	0.774	0.306	0.927	3.86	2.21	66.52
	21	101	105	5	146.65	0.5021	46.5	233.83	94.19	5743.3	0.633	0.153	0.787	0.306	0.939	3.86	2.18	66.14
10	22	106	110	5	151.75	0.509	47.2	236.98	95.43	6074.5	0.645	0.153	0.799	0.306	0.951	3.86	2.15	65.79

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23	111	115	5	156.86	0.5157	47.8	240.05	96.65	6410	0.657	0.153	0.81	0.306	0.963	3.86	2.13	65.46
11	24	116	120	5	161.96	0.5222	48.4	243.04	97.82	1.302	0.306	1.609	0.612	1.914	3.86	2.1	65.14
	25	121	125	5	167.06	0.5286	49	245.95	98.97	0.668	0.153	0.821	0.306	0.974	3.86	2.07	64.82
									7093.5	0.68	0.153	0.832	0.306	0.986	3.86		
12	26	126	130	5	172.15	0.5348	49.5	248.78	100.1	1.348	0.306	1.653	0.612	1.96	3.86	2.04	64.52
	27	131	135	5	177.23	0.5408	50.1	251.53	101.2	0.691	0.152	0.843	0.304	0.995	3.86	2.02	64.22
									7792.8	0.702	0.152	0.854	0.304	1.006	3.86		
13	28	136	140	5	182.3	0.5467	50.6	254.21	102.2	1.393	0.304	1.697	0.608	2.001	3.86	1.99	63.93
	29	141	145	5	187.37	0.5524	51.2	256.83	103.3	0.712	0.152	0.864	0.304	1.016	3.86	1.97	63.65
									8507.3	0.723	0.152	0.874	0.304	1.027	3.86		
14	30	146	150	5	192.42	0.558	51.7	259.38	104.3	1.435	0.304	1.738	0.608	2.043	3.86	1.94	63.37
	31	151	155	5	197.46	0.5635	52.2	261.86	0	0.733	0.151	0.884	0.302	1.035	3.86	1.92	63.11
									9236.1	0.743	0.151	0.894	0.302	1.045	3.86		
									sum	1.476	0.302	1.778	0.604	2.08			
									Total	17.41	4.57	21.98	9.14	26.55			

SDTL 50-200 MeV 961113 T. Kato

1 SUMMARY OF DTL LINAC

NT	ENERGY	BETA	CELL	TANK	PC*1.3	PBEAM	PTOT	DRIFT SPACE	STARTP	ENDP	START & END CELL
	3.000	.0798									
1	19.196	.1992	80	1035.623	1.158	.486	1.644	4	73.740	.000	1109.363
2	35.407	.2672	41	886.600	1.359	.486	1.845	3	74.176	1109.363	2070.139
3	50.058	.3142	29	780.773	1.401	.440	1.840	3	.000	2070.139	2850.912
			150	2702.997	3.92	1.41	5.33	RFDRIVE=	3.01		