

2015/08/20

Helicon, H. gas

Paddle steers ed

to do: baratron display manual:

- Stabilize drift

- Brightness

2015/08/20

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Date:	5/20/15														
2			Run description:	FRC/RMFO	helium	- x-rays												
3			Base pressures: Main IG (T)	5.7e-7														
4			ER IG (T)															
5			Satellite IG (T)	4.8e-7														
6			Main chamber Baratron (T)	5.7e-7	.0069	(70)												
7			Expansion region Baratron (T)	.004														
8			Antennas/delay lines	2-turn, RG-217, 15" long														
9			RMF frequency & phase															
10			Magnet configuration & PS	4x8 + 8x4 coils; RR PS; eight BN-covered FCs														
11			RMF system	SRS-> duty factor limiter -> AR100LM9 -> 2KD -> four 8K Ultras														
12			Wall Time	9:27			9:50	9:53	10:03	10:09	10:13	10:21	10:26	10:31	10:36	10:42	10:46	10:58
13			Main magnets I (A)	93				93										92
14			Nozzle coils I (A)	300				300										320
15			MC IG (T)	5.6e-7														
16			MC Slow Baratron (T)	.0069	.0078	.0095		.0081(2)	.0078	.0078	.0077	.0077	.0077	.0078	.0078	.0078	.0078	.0078
17			MC FB (T)	-.092-3		2.63 m		1.37	1.35	1.31	1.24	1.14	1.03	.95	.87	.77	.67	.62
18			ER IG (T)															
19			ER slow Baratron (T)	.002				1.649	.646	.645	.611	.585	.550	.524	.499	.461	.426	.425
20			ER FB (T)	-.002-3				.64	.64	.60	.60	.57	.53	.53	.50	.47	.44	.45
21			Satellite IG (T)	4.6e-7				3.1e-5	3.1e-5	3.1e-5	2.9e-5	2.7e-5	2.6e-5	2.4e-5	2.2e-5	2.1e-5	2.0e-5	1.9e-5
22			Satellite FB (T)	-.072-3		2.33												
23			Bias voltage: paddle															
24			Main valve		C													
25			Navigator valve		14.74													
26			End turbo valve		0													
27			Gases/feed location/sccm		112/11													
28			PV-10 (V)															
29			Pulse	A to/Δt														
30				B to/Δt														
31				C to/Δt														
32			Diagnostics	LeCroy time	9:4			9:55:46										
33			Spectr	PM Tube (V)														
34			Wavelength	Port/LOS														
35			170 GHz	dia (mV)/IM freq														
36			X-ray	Amptek														
37			RMFO system	main SRS														
38				Pulse width (ms)/ rep rate (Hz)														
39				Frequency: Center(MHz)/Span(KHz)														
40				Pa														
41				Pr/% refl														
42				ΦM														
43				Satellite probe														
44				ER Probe														
45				Pf/Pr	70/20	115/55	130/15	300/91	220/8	309/3	303/10	310/10	310/10	310/9	307/9	303/8	309/9	305/9
46			Helicon (SRS/Power/%mod)		.110	.130	.130	.180	.180	.184	.184	.185	.186	.186	.186	.187	.187	.187
47			Comments/changes:	for Δφ = π/2, n _e = 2.1e12 cm ⁻³														sheet 1 of 4

PADLE
FLOWING

2015/08/20

[illegible]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Date:																	
2	Run description:			FRC/RMFO														
3	Base pressures:			Main IG (T)														
4				ER IG (T)														
5				Satellite IG (T)														
6	Main chamber Baratron (T)																	
7	Expansion region Baratron (T)																	
8	Antennas/delay lines			2-turn, RG-217, 15" long														
9	RMF frequency & phase																	
10	Magnet configuration & PS			4x8 + 8x4 coils; RR PS; eight BN-covered FCs Recentered 4-turn MC coil														
11	RMF system			SRS-> duty factor limiter -> AR100LM9 -> 2KD -> four 8K Ultras														
12	Wall Time			12:50	12:55	1:03		3:27	3:33	3:37	3:43	3:56	4:00	4:04	4:05	4:08	4:12	4:16
13	Main magnets I (A)			12.2	12.2	0		0.91										
14	Nozzle coils I (A)					0		0.307										
15	MC IG (T)																	
16	MC Slow Baratron (T)			.0073	.0075	.0069		.0040	.0090	.0089	.0089	.0088	.0087	.0086	.0086	.0085	.0083	.0082
17	MC FB (T)			-.76	-0.01	-0.56		-0.08	2.12	1.96	1.86	1.74	1.59	1.45	1.47	1.38	1.23	1.16
18	ER IG (T)																	
19	ER slow Baratron (T)			.650	.308	.046		.000	1.199+5	1.114	1.057	.960	.864	.800	.797	.757	.707	.675
20	ER FB (T)			.76	.29	2.22-603		.00	.67	.85	.98	.93	.81	.80	.80	.73	.69	.65
21	Satellite IG (T)			2.8e-5	1.2e-5	2.2e-5		4.5e-7	4.8e-5	4.5e-5	4.4e-5	4.2e-5	3.8e-5	3.6e-5	3.6e-5	3.4e-5	3.2e-5	3.0e-5
22	Satellite FB (T)																	
23	Bias voltage: paddle																	
24	Main valve			Fltcr ZP.XB														
25	Navigator valve			B														
26	End turbo valve			no														
27	Gases/feed location/sccm			passing through														
28	PV-10 (V)			R														
29	Pulse A to/D			E														
30	B to/D			pe-														
31	C to/D																	
32	Diagnostics LeCroy time			12:51:58	12:57:16		A	tung	15:35:27	15:38:50	15:45:17	15:57:35	16:01:37	16:05:12	16:07:05	16:09:46	16:13:40	16:17:34
33	Spectr PM Tube (V)			bottom antenna with														
34	Wavelength Port/LOS			170 GHz dia (mV)/IM freq														
35	X-ray Amptek			V side.														
36	RMFo system main SRS			K														
37	Pulse width (ms)/ rep rate (Hz)			Plasma														
38	Frequency: Center(MHz)/Span(KHz)			=														
39	Pa			=														
40	Pr/% refl			Zero														
41	φM																	
42	Satellite probe			Also in ER														
43	ER Probe			Probe 1 (K)														
44	Pf/Pr			322/26	340/45		0	371/72	377/71	372/73	378/80	392/90	394/89	380/9	309/6	232/5	309/5	
45	Helicon (SRS/Power/%mod)			.197	.216		0	.190	.183	.179	.176	.175	.172	.173	.174	.177	.176	
46	Comments/changes:			for Δφ = π/2, n_e = 2.1e12 cm⁻³														
47				sheet 2														

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[illegible]