

2015/07/08

Helicon only, unmodulated

H₂ and Ar

ER probe characteristic vs Argon concentration

ER X-ray count vs Argon concentration

SR floating potential vs Argon concentration

Preliminary Phantom camera images ("Helicon Tscope")

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Date:	7-8-13																
2	Run description:	ERC/RMFO Helicon H ₂ magnetron for X-rays																
3	Base pressures: Main IG (T)	9.4e-7																
4	ER IG (T)																	
5	Satellite IG (T)	3.5e-7																
6	Main chamber Baratron (T)	0.021																
7	Expansion region Baratron (T)	.06																
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	10:40	11:10	11:25	11:27	11:47	11:07	11:27	11:50	11:43	12:03	12:06	12:25	12:53	13:03	13:55	14:15	
13	Main magnets I (A)	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
14	Nozzle coils I (A)	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
15	MC IG (T)																	
16	MC Slow Baratron (T)	.0086	.0087	.0082	.0081	.0082	.0087	.0087	.0086	.0084	.0083	.0083	.0082	.0082	.0082	.0083	.0082	
17	MC FB (T)																	
18	ER IG (T)																	
19	ER slow Baratron (T)	.676	.526	.526	.525	.518	.1784	.1794	.786	.718	.641	.641	.583	.587	.567	.563		
20	ER FB (T)																	
21	Satellite IG (T)	3.1e-5	2.5e-5	2.4e-5	2.5e-5	2.4e-5	3.4e-5	3.4e-5	7.5e-5	7.2e-5	7.0e-5	7.0e-5	2.7e-5	2.7e-5	2.6e-5	2.6e-5		
22	Satellite FB (T)																	
23	Bias voltage: paddle	Fl.																
24	Main valve	C																
25	Navigator valve	1474																
26	End turbo valve	1474																
27	Gases/feed location/scdm	H ₂ /He																
28	PV-10 (V)																	
29	Pulse A to/Δ	H ₂																
30	B to/Δ	H ₂																
31	C to/Δ																	
32	Diagnostics LeCroy time																	
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	P _r /P _e	145/9	148/9	230/9	225/9	135/39	210/5	210/3	220/8	233/15	228/15	224/9	225/10	232/14	231/8			
46	Helicon (SRS/Power/%mod)	.130/10		.160		.160	.170					.167	.172	.165	.160			
47	Comments/changes:	for Δφ = π/2, n _e = 2.1e12 cm ⁻³																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Date:	7-8-15														
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														
11			RMF system	SRS-> duty factor limiter -> AR100LM9 -> 2KD -> four 8K Ultras														
12			Wall Time	4:20	4:21	4:28	4:40	4:44	4:53									
13			Main magnets I (A)	115	107	93	93	93	93									
14			Nozzle coils I (A)	300	300	300	300	300	300									
15			MC IG (T)															
16			MC Slow Baratron (T)			.0095		.0083										
17			MC FB (T)															
18			ER IG (T)															
19			ER slow Baratron (T)	Repl		1.125	.778	.616										
20			ER FB (T)															
21			Satellite IG (T)	B-FEU		4.1e-5	3.0e-5	2.2e-5										
22			Satellite FB (T)															
23			Bias voltage: paddle															
24			Main valve	change														
25			Navigator valve															
26			End turbo valve															
27			Gases/feed location/sccm															
28			PV-10 (V)															
29			Pulse	A to/Δt														
30				B to/Δt														
31				C to/Δt														
32			Diagnostics	LeCroy time														
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			PE/R			1/10 300W	191/23	200/25	197/25									
46			Helicon (SRS/Power/%mod)															
47			Comments/changes:	for Δφ = π/2, n _e = 2.1e12 cm ⁻³														