

2015/05/27

Varied
~~Measured~~

^{Holzer} Not pure v1 all other parameters wld constant
- look like no Te

- Varied down chamber pressure, keeping all other pressures and parameters constant
- look like no Te

- Observed "hot" second Te distribution
- unphysical bump at 80 eV?

[illegible]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Date:	5/2/15														
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	Recentered 4-turn MC coil													
11			RMF system	SRS-> duty factor limiter -> AR100LM9 -> 2KD -> four 8K Ultras														
12			Wall Time	1:05	1:18	1:11							2:10	2:14	2:17	2:18	2:19	2:21
13			Main magnets I (A)	93	93	93	93	93	93	93	93		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
15			MC IG (T)															
16			MC Slow Baratron (T)	.0081	.0081	.0082	.0082	.0082	.0082	.0082	.0082		.0081	.0081	.0080	.0079	.0080	.0080
17			MC FB (T)	.63	.65	.64	.64	.64	.63	.64	.64		.53	.50	.49	.48	.48	.47
18			ER IG (T)															
19			ER slow Baratron (T)	.354	.352	.353	.356	.354	.355	.354	.34		.345	.370	.343	.342	.342	.342
20			ER FB (T)															
21			Satellite IG (T)	1.65	1.6	1.6	1.6	1.6	1.6	1.6	1.6		1.6	1.6	1.6	1.6	1.6	1.6
22			Satellite FB (T)															
23			Bias voltage: paddle															
24			Main valve															
25			Navigator valve															
26			End turbo valve															
27			Gases/feed location/scdm															
28			PV-10 (V)															
29			Pulse	A to/Δt														
30				B to/Δt														
31				C to/Δt														
32			Diagnostics	LeCroy time	1:05		1:15	1:17	1:20	1:21	1:23	1:25						
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			Pr/Pr	99/29	85/26	73/27	62/24	48/20	38/15	26/12	16/8		150/18	171/18	201/19	230/20	255/22	245/22
46			Helicon (SRS/Power/%mod)	.097	.087	.077	.067	.057	.047	.037	.027	.017	137	147	157	167	177	187
47			Comments/changes:	for Δφ = π/2, ne = 2.1e12 cm-3														sheet 2 of

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Date:	5/27/15														
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	Recentered 4-turn MC coil													
11			RMF system	SRS-> duty factor limiter -> AR100LM9 -> 2KD -> four 8K Ultras														
12			Wall Time	2:23	2:25	2:27	2:24	3:31		2:52		3:02	3:06	3:09	3:14	3:15		
13			Main magnets I (A)	92	92	92	92	92	92	92					3:17			
14			Nozzle coils I (A)	300	300	300	300	300	30	30								
15			MC IG (T)															
16			MC Slow Baratron (T)	.0081	.0081	.0081	.0081	.0081	.0086	.0088	.0090	.0091	.0091	.0093	.0094	.0095	.0097	
17			MC FB (T)	.48	.48	.44	.42	.42	1.01	1.25	1.42	1.54	1.61	1.76	1.83	1.97	2.22	
18			ER IG (T)							(3)	(7)	(1)						
19			ER slow Baratron (T)	.342	.338	.338	.338	.339	.941	.940	.946	.946	.947	.942	.947	.943	.999	
20			ER FB (T)															
21			Satellite IG (T)	1.0e-5	1.6	1.6	1.6	1.6	3.4e-5	4.1e-5	4.3	4.4e-5	4.6	4.6	4.7	4.9	5.3	
22			Satellite FB (T)															
23			Bias voltage: paddle															
24			Main valve	C														
25			Navigator valve	4														
26			End turbo valve	4														
27			Gases/feed location/sccm	He, H ₂														
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			Pi/% refl															
42			ΦM															
43			Satellite probe															
44			ER Probe															
45				325/20	363/23	420/27	420/25	470/26	250/10	250/10	250/10	250/10	248/10	249/11	252/10	253/14	255/15	
46			Helicon (SRS/Power/%mod)	.197	.207	.217	.222	.237	.187	.189	.191	.199	.193	.200	.200	.202	.207	
47			Comments/changes:	for Δφ = π/2, n _e = 2.1e12 cm ⁻³														sheet 2 of 2

250W = P_W
 250W = P_W
 250W = P_W

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Date:	5/27/15														
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	Recentered 4-turn MC coil													
11			RMF system	SRS-> duty factor limiter -> AR100LM9 -> 2KD -> four 8K Ultras														
12			Wall Time	3.34	3.4	3.47	3.52	3.56	4.00		4.18	4.3						
13			Main magnets I (A)	92	92	92	92	92	92	92	92	92						
14			Nozzle coils I (A)	300	300	300	300	300	300	300	300	300						
15			MC IG (T)															
16			MC Slow Baratron (T)	.0085	.0085	.0084	.0082	.0080	.0079	.0075	.0079	.0071						
17			MC FB (T)	.89	.76	.65	.49 (150)	.39	.35 (33)	.15 (6)	.16	.02						
18			ER IG (T)	(.17)														
19			ER slow Baratron (T)	.52	.520	.522	.522	.521	.521 (2)	.529	.529	.517						
20			ER FB (T)															
21			Satellite IG (T)	2.5e-5	2.5	2.4e-5	2.3	2.2e-5	2.1e-5	6.7e-5	4.2e-5	8.0e-5						
22			Satellite FB (T)															
23			Bias voltage: paddle															
24			Main valve	C														
25			Navigator valve	range	clamping													
26			End turbo valve	gain														
27			Gases/feed location/sccm	H ₂ /He														
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			Pf/% refl															
42			ΦM															
43			Satellite probe															
44			ER Probe															
45				250/9	250/10	252/11	255/13	258/16	260/17	270/18	262/24	281/30						
46			Helicon (SRS/Power/%mod)	.184	.182	.016	.177	.177	.177	.173	.175	.175						
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:	6/27		after → pump down												
2			Run description:	FRC/RMFo		Run 200 in main tube sample assembly												
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															
13			Main magnets I (A)	92A		ca	FS	0.00	27MHz in vac/pf									
14			Nozzle coils I (A)	300A														
15			MC IG (T)															
16			MC Slow Baratron (T)															
17			MC FB (T)															
18			ER IG (T)															
19			ER slow Baratron (T)															
20			ER FB (T)															
21			Satellite IG (T)															
22			Satellite FB (T)															
23			Bias voltage: paddle															
24			Main valve															
25			Navigator valve															
26			End turbo valve															
27			Gases/feed location/sccm															
28			PV-10 (V)															
29			Pulse	A to/Δ														
30				B to/Δ														
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																		
46			Helicon (SRS/Power/%mod)															
47			Comments/changes:	for $\Delta\phi = \pi/2$, $n_e = 2.1e12 \text{ cm}^{-3}$														