Profiles from Alexis Briesemeister's Thesis

I. Base case: 50 kW heating, carbonized walls

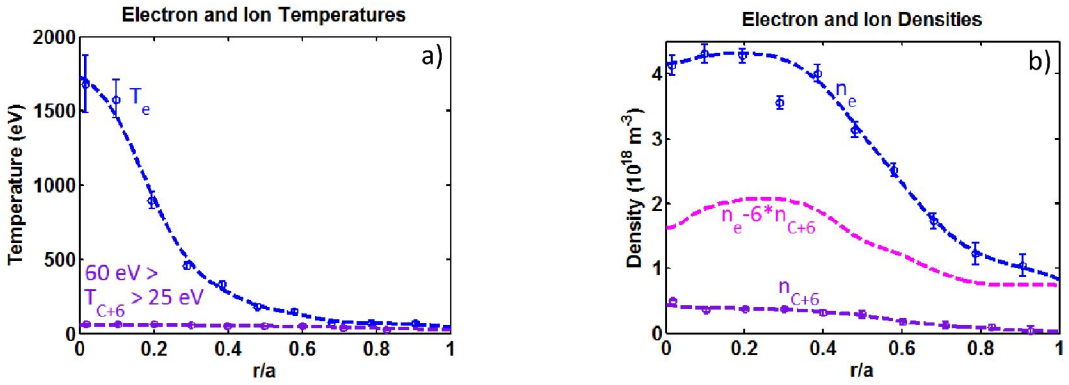

Figure 4.1: a) The electron temperature (blue) measured by Thomson scattering and the C^{+6} temperature measured by the CHERS system (purple) are plotted along with fits to the measured values. b) The electron density (blue) measured by Thomson scattering and the C^{+6} density (purple) measured by the CHERS system are plotted. The difference between the electron density and C^{+6} ion charge density is also shown as the dashed magenta line.

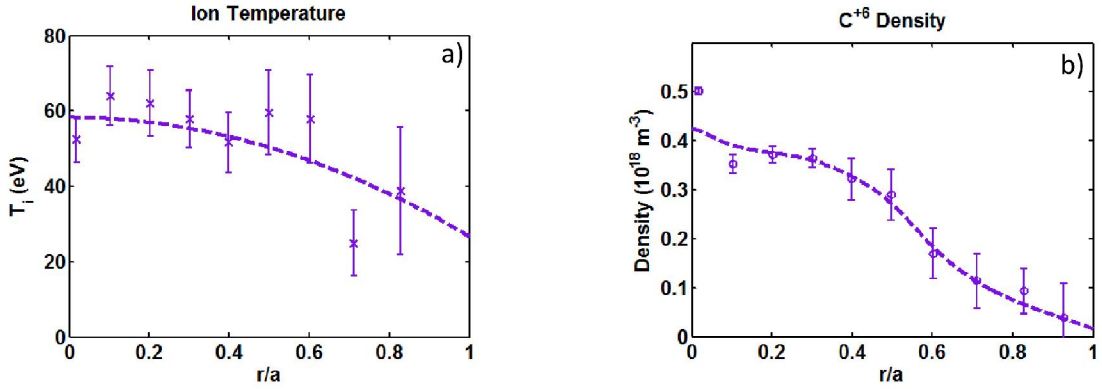

Figure 4.2: a) The C^{+6} temperature and b) density measured by the CHERS system is shown as symbols with error bars along with fits to the data.

r/a	T(eV)	n_e (10^{18} m^{-3})
0.02	1670	4.12
0.1	1570	4.3
0.19	890	4.27
0.29	450	3.55
0.39	330	3.99
0.48	180	3.12
0.58	150	2.51
0.68	60	1.73
0.79	70	1.22
0.91	70	1.05

r/a	n_{C+6} (10^{18} m^{-3})	T_{C+6}
0.02	0.5	52
0.1	0.351	64
0.2	0.37	62
0.3	0.362	58
0.4	0.32	52
0.5	0.289	60
0.6	0.168	58
0.71	0.113	25
0.83	0.092	39
0.93	0.038	

II. Boronized Walls, lower C^{+6} with methane fueling
Also shown (in blue) in the plots below are the fits for the base case.

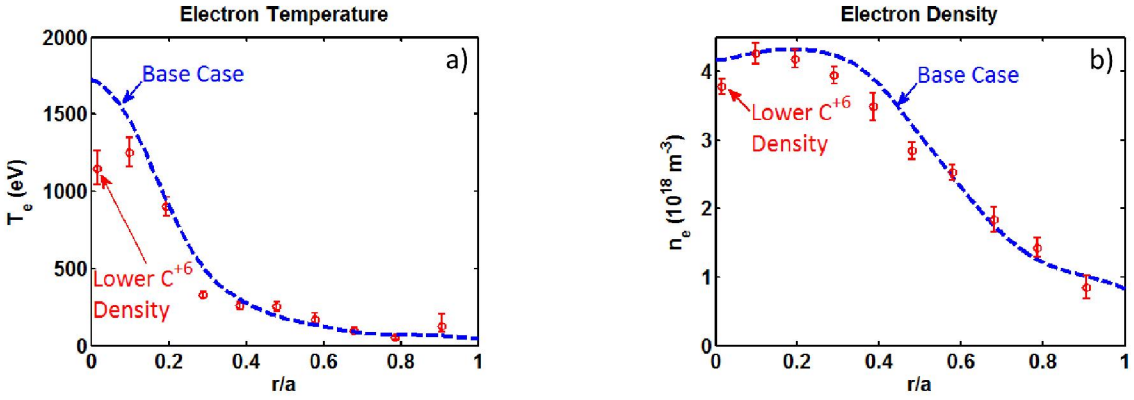

Figure 4.22: a) The electron temperature and b) electron density profiles measured by Thomson scattering for the lower impurity case are shown as red circles with error bars. The base case profiles are shown as dashed lines.

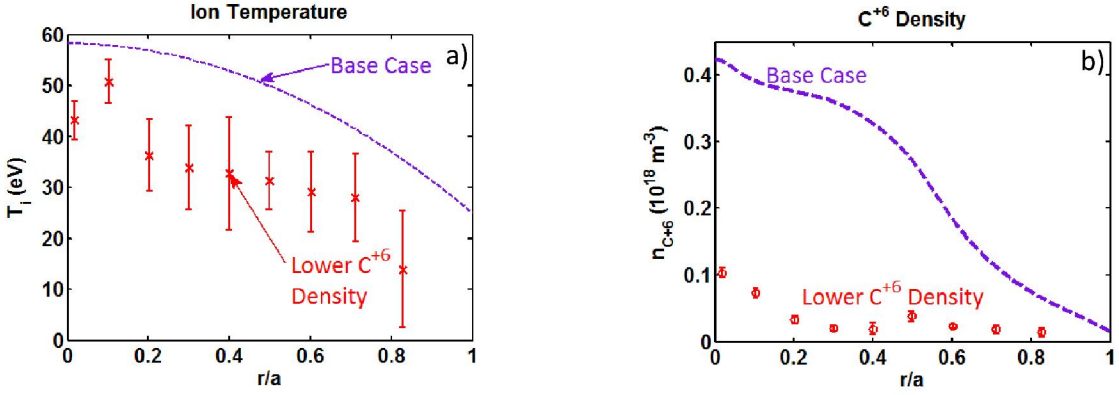

Figure 4.23: a) The C^{+6} density and b) temperature profiles measured by CHERS are shown as symbols with error bars. The profiles for the base case are shown as dashed lines

r/a	T(eV)	n_e (10^{18} m^{-3})
0.02	1140	3.77
0.1	1250	4.26
0.19	900	4.17
0.29	330	3.94
0.39	260	3.48
0.48	250	2.84
0.58	170	2.53
0.68	90	1.83
0.79	50	1.42
0.91	130	0.84

r/a	n_{C+6} (10^{18} m^{-3})	T_{C+6}
0.02	0.102	43
0.1	0.073	51
0.2	0.033	36
0.3	0.02	34
0.4	0.019	33
0.5	0.038	31
0.6	0.023	29
0.71	0.019	28
0.83	0.014	14