Table 2. CIT Parameters

Parameter	H-Mode Confinement	Pellet Injection
$n_e(0)$	7.5e14 cm^{-3}	1.6e15 cm^{-3}
$n_e(a)$	1.5e14 cm^{-3}	9.5e13 cm^{-3}
$\langle n_e \rangle$	5.25e14 cm^{-3}	5.25e14 cm^{-3}
μ	0.6	2.5

In both ITER cases, the 1/e decay length of the density in the SOL was fixed at λ_{ne} = 10 cm for the electrons and λ_{ni} = 15 cm for the impurity ions. The temperature decay length (see Fig. 1) was much shorter: $\lambda_{T\alpha}$ = 0.24 for the low density case and $\lambda_{T\alpha}$ = 0.36 cm for the high density case. These values are consistent with predictions from modeling.[5] Below T_e = 7 eV the carbon radiation rate drops precipitously.[21] This results in a very narrow region of line radiation in the scrape-off layer. For CIT cases, the SOL parameters were λ_{ni} = 3 cm, λ_{ne} = 3 cm and $\lambda_{T\alpha}$ = 0.5 cm.

A finer radial mesh was used in the outer plasma region (roughly r/a > 0.8, where line radiation from the impurities is dominant) than in the plasma core. Scans over mesh size, described later, showed that our element-dependent choices were adequate to discriminate individual ionization charge states near the plasma edge, i.e., down to the +4 state of Fe.

Seven different impurities were studied for ITER: helium, carbon, oxygen, aluminum, iron, molybdenum and tungsten. In 1989, Al, Mo and W were not planned for use in ITER; we chose to include them in this study because of potential future applications. (W is now specified as the first option for the Technolgy Phase divertor plate material.) The 1988 ITER Z_{eff} specification was 2.26, comprised of the