Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Upgraded SXR/EUV Spectroscopy Capabilities for Alcator C-Mod[1] M.A. CHILENSKI, T. CHRISTENSEN, M. GREENWALD, M.L. REINKE, J. TERRY, A.E. WHITE, MIT PSFC, P. BEIERSDORFER, E. MAGEE, LLNL — Alcator C-Mod is equipped with several spectrometers for the SXR/EUV range. These instruments provide a survey of the impurity content of the plasma, particularly K-shell emission from low-Z elements (B to Ne), L-shell emission from mid-Z elements (Ar to Fe) and M-shell emission from intrinsic Mo. Diagnosis of these lines is important for understanding impurity transport and main ion dilution in C-Mod. The X-ray and Extreme Ultraviolet Spectrometer (1-7nm, 2400l/mm grating) has been calibrated using an electron impact x-ray source with a variety of anodes to give lines from 6.76nm (B Kα) to 1.19nm (Na Kα). The Long Wavelength and Extreme Ultraviolet Spectrometer (2-40nm, 1200l/mm grating) is being commissioned for use on C-Mod, with the intent of replacing an aging 2.2m Rowland circle spectrometer presently used to survey the longer EUV wavelengths ($\lambda < 100$nm) and monitor M-shell Mo emission. The new instrument is both more compact and should provide significantly better spectroscopic data.

[1]Work performed under US DOE contracts DE-FC02-99ER54512 and DE-AC52-07NA-27344.

Mark Chilenski
MIT PSFC

Date submitted: 19 Jul 2011 Electronic form version 1.4