Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

Overview of recent highlights from MAST N.J. CONWAY[1], for the MAST Team and collaborators — The MAST programme in support of the physics basis for ITER, DEMO and future devices based on spherical tokamaks is being facilitated by a number of recent enhancements. Twelve internal coils are now in place (6 each upper and lower, for n=3), which will be used in ELM mitigation studies at currents of up to 2 kA, and for TAE excitation and damping experiments. Magnetic perturbations from external (n=2) coils have already been used to double the ELM frequency in low collisionality H-modes. A second long-pulse PINI neutral heating beam has been installed (total beam power 5 MW). The Thomson scattering diagnostic has been upgraded with 4 more Nd:YAG lasers (8 in total, 240 Hz aggregate rate) and the number of spatial channels is being further increased to 120. A multi-chord MSE diagnostic has been constructed and installed (35 spatial channels, 2.5 cm resolution), and will be a key tool in the study of non-inductive current-drive. The present MAST campaign is focussed on exploiting our new capabilities, particularly in the areas of confinement & transport, stability, ELMs, current-drive, non-inductive start-up and exhaust physics. This presentation will provide an overview of our recent results and future plans.

[1]EURATOM/UKAEA Fusion Association, Culham Science Centre, Abingdon, OX14 3DB, UK

N.J. Conway
UKAEA Fusion

Date submitted: 17 Jul 2008 Electronic form version 1.4