

Abstract Submitted
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Characteristics of H-mode Discharges in NSTX,* R. Maingi, C.E. Bush, Y.-K.M. Peng, *ORNL*, M.G. Bell, R.E. Bell, E.D. Fredrickson, D.A. Gates, D.W. Johnson, R. Kaita, S.M. Kaye, H.W. Kugel, B.P. LeBlanc, J.E. Menard, D. Mueller, M. Ono, A.L. Roquemore, V.A. Souvkhankovskii, E.J. Synakowski, G. Taylor, S.J. Zweben, *PPPL*, D. Stutman, *Johns Hopkins*, F. Paoletti, S.A. Sabbagh, *Columbia*, S. Kubota, *UCLA*, R. Maqueda, *LANL* – H-mode discharges were obtained in NSTX for the first time[1] in the following parameter regimes: line density between 1.5×10^{13} and 2.5×10^{13} , plasma current between 0.7 and 1 MA, toroidal field of 0.45 T, and in lower-single null divertor shape. ELM-free discharges had energy confinement as high as 120ms, whereas the first ELMy discharges had confinement ~ 50 -70ms. Buildup of a steep edge density gradient and formation of ‘ears’ (as reported by MAST) were observed. Power threshold studies are commencing, and first results suggest a power threshold ~ 1 MW, higher than predicted by the ITER database. An overview of H-mode related results will be presented, and details will be given in an accompanying poster[2].

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[1] R. Maingi, et. al., ‘Characteristics of the First H-mode Discharges in NSTX’, submitted to *Phys. Rev. Letts.*, 5/01.

[2] C.E. Bush, et. al., **this conference.**

Prefer Oral Session

Prefer Poster Session

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