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Comparison of Deuterium Pellet Injection from Different Locations on DIII-D T.C. Jernigan,* L.R. Baylor*, S.K. Combs,* C.R. Foust*, M.R. Wade*, and P. Gohil, GENERAL ATOMICS – During the past year the high field side (inside wall of the vacuum vessel) pellet injection guide tubes have been installed on DIII-D. As reported by ASDEX¹, significantly deeper density penetration for a given pellet velocity is achieved by inside launch as compared to low field side launch from the outside. In addition, a pellet “breaker” guide tube was installed in the outside launch system on DIII-D to further minimize the pellet density deposition. These new tools have been used in a series of preliminary experiments that study the effects of varying penetration depths. These include pellet enhanced performance (PEP) modes² from deep density deposition during the plasma current rise, H-mode threshold studies by both deep and shallow deposition, and extension of advanced tokamak scenarios by induced ELM’s in VH-mode by both deep and shallow deposition.

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¹P.T. Lang, K. Büchl, M. Kaufmann, R.S. Lang, V. Mertens, H.W. Müller, J. Neuhauser, ASDEX Upgrade Team, and NBI Team, Phys. Rev. Lett. 79, 1487 (1997).

²JET Team (presented by G.L. Schmidt), in Plasma Physics and Controlled Nuclear Fusion Research 1988 (Proc. 12th Int. Conf. Nice, 1988), Vol 1, IAEA, Vienna (1989) 215.

- Prefer Oral Session
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