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**Abstract Submitted
for the DPP04 Meeting of
The American Physical Society**

Sorting Category: 6.7.0

Effects of Density Profile Peaking on Confinement¹ V. ROYTERSHTEYN, B. COPPI, MIT — The suggestion that peaked density profiles produced by the injection of pellets in order to unlock the confinement from its saturated state in Ohmic regimes was made by one of us on the basis of the theory of both plane [1] and toroidal [2] ion temperature gradient (ITG) driven modes. A series of experiments started with the Alcator C machine and continuing with current experiments with repeated pellet injections on the FTU machine have confirmed that confinement is improved systematically. The same kind of profiles is optimal for the conditions under which ignition can be achieved in burning plasmas. A comparison of relevant dimensionless parameters obtained in different experiments, including the Alcator C Mod machine, with those of ignition regimes, to be produced by Ignitor for instance, is made and related to the results of numerical simulations of the plasma heating process toward ignition process. [1] B. Coppi, M. N. Rosenbluth and R.Z. Sagdeev, Phys. Fluids 10, 582 (1967) [2] B. Coppi and E. Pegoraro, Nucl. Fus. 17, 969 (1977)

¹Sponsored in part by the US Department of Energy

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Date submitted: 22 Jul 2004

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