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**Modifications to the Radial Electric Field and the  
Toroidal Rotation Velocity by Pellet Injection in DIII-D<sup>1</sup>**

P. GOHIL, K.H. BURRELL, General Atomics, L. BAYLOR, T.C. JERNIGAN, Oak Ridge National Laboratory — The ability to modify and control the radial electric field and its radial derivative can lead to direct control of the radial transport. In DIII-D, the injection of deuterium pellets has been investigated as a means of controlling the toroidal rotation velocity and the radial electric field. Solid deuterium pellets of diameter 1.8 and 2.7 mm were injected into single null diverted plasmas at 1.0 MA and 2.1 T. Plasmas with either upper null or lower null diverted configurations were studied. The pellets were injected radially at the plasma midplane and also vertically with the pellets penetrating to  $\rho = 0.2$  with vertical injection and  $\rho = 0.4$  with radial injection. The electron density profiles were significantly perturbed by the pellets and preliminary results also indicate decreases in the toroidal rotation velocity. Further analysis is underway to determine the effect on  $E_r$  and whether angular momentum is conserved. Temporal histories of profiles up to 2 ms time resolution will be presented.

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- Prefer Oral Session  
 Prefer Poster Session

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Special instructions: DIII-D Poster Session I (transport, turbulence, & stability), immediately following Austin

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