

Abstract Submitted  
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**Plasma Torque and Non-Ambipolar Transport**<sup>1</sup> ALLEN BOOZER,  
Columbia University — Poloidal symmetry breaking in toroidal plasmas causes a damping of poloidal rotation and toroidal symmetry breaking a damping of toroidal rotation. These torques are transmitted by the magnetic field to the outside world. An upper limit exists on the torque that can be transmitted by a magnetic perturbation. This limit is enforced by shielding asymmetries from the plasma, which can be an important effect for toroidal asymmetries. The torque interaction of plasmas with magnetic fields can be either through an anisotropic pressure or by a drive for magnetic islands. The physics of both types of interactions are considered. Although the magnetic field is essential for transmitting the torque, it does not explicitly appear in the internal torque balance equations. This and other paradoxical effects are clarified.

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