

Abstract Submitted  
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**Plasma effects on the location of the outermost magnetic surface<sup>1</sup>**

ALLEN BOOZER, Columbia University — In both tokamaks and stellarators, the plasma boundary is often defined by the separatrix between magnetic field lines that form toroidal surfaces and field lines that strike solid objects such as the chamber walls or divertor plates. Extremely small magnetic perturbations can move this separatrix radially inward. However, in the presence of a plasma this radial movement of the separatrix causes a complicated spatial distribution of plasma pressure, which gives rise to currents that can greatly modify or even shield out the magnetic perturbations. An estimate is given of the minimum magnetic perturbation that is required to break up toroidal magnetic surfaces while avoiding plasma shielding.

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