Modeling tokamak discharges with current holes

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Abstract. Tokamaks with current holes [T.S. Taylor, et al., Bull. Am. Phys. Soc. **43**, 1783 (1998); N.C. Hawkes, et al., Phys. Rev. Lett. **87**, 115001 (2001); T. Fujita, et al., Phys. Rev. Lett. **87**, 245001 (2001)] are interesting, in part, because discharges with true current holes do not consume poloidal flux. The modeling of this paper suggests that their currents are driven by radial flow of plasma resulting from neutral beam injection.

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