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## **【811】 First results on the effects of toroidal current on 3D equilibria in magnetic fusion devices**

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The sensitivity of 3D magnetohydrodynamical equilibria to the toroidal current profile is of paramount importance for stellarator optimization and operation. In fact, magnetic field-line chaos can emerge depending on the plasma pressure and currents, thereby strongly affecting particle confinement. The Stepped-Pressure Equilibrium Code (Hudson et al., *Phys. Plasmas*, vol 19 (11), 2012) can be used to compute partially reconnected equilibria with coexisting magnetic surfaces, magnetic islands and chaos. The code has been recently extended to allow toroidal current prescription. A study of the toroidal current effect on magnetic topology is presented in a simplified stellarator configuration.

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