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Magnetic Islands Stabilization by Plasma Compressibility Effects in a Tokamak A.I. SMOLYAKOV[1], X. GARBET, M. OTTAVIANI, Association EUTRATOM-CEA, CEA/DSM/DRFC, CEA Cadarache, 13108 St Paul Lez Durance France — It is shown that the stability of rotating magnetic islands in a tokamak plasmas is affected by plasma compressibility related to the geodesic curvature in inhomogeneous magnetic field. A robust stabilizing contribution has been found to the Rutherford evolution equation. It is suggested that this mechanism is responsible for the instability threshold for neoclassical tearing modes.

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