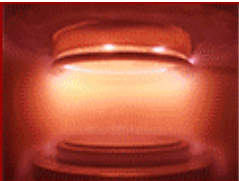



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Impact of punctual flat magnetic shear on the field line transport

Physics of Plasmas **22**, 062510 (2015); <https://doi.org/10.1063/1.4923016>C. V. Abud^{1,2, a)} and I. L. Caldas^{2, b)}[View Affiliations](#)[View Contributors](#)

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We investigate the magnetic field line transport for tokamak equilibria with monotonic magnetic shear perturbed by resonant fields. We show that when the local profile is flat at the plasma edge a transport barrier can be created leading to a field line transport reduction. This transport reduction is due to the field lines topological modifications, caused by a local flattened profile that reduces the global field lines escape pattern. The results are obtained by applying a symplectic map that describes perturbed magnetic field lines in large aspect ratio tokamaks.

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