

Abstract Submitted
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Stability and growth rates of ideal localized interchange modes¹

MAXIM UMANSKY, LLNL — Stability of cylindrical localized ideal pressure-driven interchange plasma modes is revisited. Converting the underlying eigenvalue problem into the form of the Schrodinger equation gives a new simple way to derive the Suydam stability criterion and find the growth rates of unstable modes, using physical arguments and calculations based on elementary quantum mechanics. Near the marginal stability limit the growth rate is exponentially small and the mode has a double-peak structure.

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