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Testing the limits of quasi-symmetry in stellarator[1] ANDREW WARE, University of Montana — This work explores the limits of quasi-symmetric stellarator configurations. Optimized quasi-symmetric stellarators have been developed that have improved neoclassical confinement relative to conventional stellarators. These quasi-symmetric configurations can also have stronger flows than conventional stellarators which may lead to reduced turbulent transport. In this work the range of flexibility of an optimized quasi-symmetric stellarator in parameter space is tested. Specifically, how much variation in the boundary and profiles is possible while still maintaining good neoclassical confinement? Here, an optimized case is tested to see how shallow the minimum is in parameter space. A shallower minimum allows for more flexibility in achieving other goals including stability and reducing the complexity of the configuration.

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