# Asymmetric orbifolds with vanishing cosmological constant

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**Abstract**

We systematically study and classify non-supersymmetric Type II toroidal orbifolds with vanishing vacuum energy at one-loop in string perturbation theory. These are engineered through the conservation of a supercharge-like operator in each individual sector in the orbifold sum, despite the overall explicit breaking of spacetime SUSY. We provide a full classification of such orbifolds with finite abelian group, and present partial result from a work in progress on the full classification in the non-abelian case. For some of these models, it is possible that this cancellation persists at higher loops.

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