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Branched Hamiltonians and Supersymmetry THOMAS CURTRIGHT, University of Miami, COSMAS ZACHOS, Argonne National Laboratory — Some examples of branched Hamiltonians are explored both classically and in the context of quantum mechanics, as recently advocated by Shapere and Wilczek. These are in fact cases of switchback potentials, albeit in momentum space, as previously analyzed for quasi-Hamiltonian chaotic dynamical systems in a classical setting, and as encountered in analogous renormalization group flows for quantum theories which exhibit RG cycles. A basic two-worlds model, with a pair of Hamiltonian branches related by supersymmetry, is considered in detail.

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