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Susan Tolman* (tolman@illinois.edu). *Symplectic cohomological rigidity and toric degenerations.*

An open conjecture asserts that toric manifolds are cohomologically rigid, that is, two toric manifolds are diffeomorphic exactly if their cohomology rings are isomorphic. This conjecture has a symplectic generalization: toric manifolds are symplectomorphic exactly if there is an isomorphism of their cohomology rings that respects the cohomology classes of the symplectic forms. We prove this conjecture in several special cases, including toric manifolds whose cohomology ring is isomorphic to $H^*((S^2)^n)$. To prove this, we use toric degenerations to construct symplectomorphisms. Based on joint work with Milena Pabiniak. (Received February 08, 2018)