Christopher R Lee* \( (\text{leec@up.edu}) \), University of Portland, Buckley Center 262, MSC 60, 5000 N Willamette Blvd., Portland, OR 97203. \textit{Uniqueness of folded symplectic toric manifolds}. Preliminary report.

A folded symplectic toric manifold is a \( 2n \)-dimensional manifold along with an effective action of the \( n \)-torus admitting a moment map with respect to a closed two-form that degenerates in a controlled fashion along a hypersurface. Unlike their symplectic counterparts, folded symplectic toric manifolds cannot be classified combinatorially. On the other hand, given \( \Sigma \), a smooth surface with corners such that \( H^2(\Sigma; \mathbb{Z}) = 0 \), and an orbital moment map on \( \Sigma \) we prove that there is at most one orientable, folded four-dimensional symplectic toric manifold whose orbit space coincides with \( \Sigma \). We also discuss how degree two cohomology classes of \( \Sigma \) parameterize isomorphism classes of folded symplectic toric four-manifolds. (Received September 23, 2009)