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Susan Tolman* (stolman@math.uiuc.edu), University of Illinois at Urbana-Champaign,
Urbana, IL 61801. *On the integer cohomology of Hamiltonian GKM manifolds.*

Let a torus T act in a Hamiltonian fashion on a compact symplectic manifold (M, ω) . We will say that M is a Hamiltonian GKM manifold if the fixed point set M^T is discrete and the submanifold M^H fixed by each codimension one subtorus $H \subset T$ has dimension at most two. In this case, it is well known that the rational (equivariant) cohomology and Chern class are determined by a certain associated graph. The purpose of this talk is to show that the same claim holds over the integers.

This is a special case of a much more general theorem, which holds whenever the integer cohomology of the fixed point set is torsion free. (Received June 29, 2011)