The Equivariant Cohomology of Complexity One Spaces with Isolated Fixed Points

A complexity k space (M, ω, T) is a compact symplectic manifold (M, ω) endowed with an effective and Hamiltonian action of a compact torus T, where k is the non-negative integer equal to $\frac{1}{2}\dim(M) - \dim(T)$. By the Chang Skjelbred Lemma we have that the equivariant cohomology with rational coefficients $H_T^*(M; \mathbb{Q})$ of a complexity k space is determined by $H_T^*(M^T; \mathbb{Q})$ and $H_T^*(M_{(1)}; \mathbb{Q})$. Here M^T is the fixed point set and $M_{(1)}$ is the one skeleton. In general the analogue of the Chang Skjelbred Lemma for integer coefficients fails to be true.
The aim of this talk is to explain why the integer version of the Chang Skjelbred Lemma is true for complexity one spaces with isolated fixed points.