YAEL KARSHON, University of Toronto
Bott Canonical Basis?

Together with Jihyeon Jessie Yang, we are resurrecting an old idea of Raoul Bott for using large torus actions to construct canonical bases for unitary representations of compact Lie groups. Our methods are complex analytic; we apply them to families of Bott-Samelson manifolds parametrized by $\mathbb{C}^n$. Our construction requires the vanishing of higher cohomology of sheaves of holomorphic sections of certain line bundles over the total spaces of such families; this vanishing is conjectural, hence the question mark in the title.