

Young Women in Topology Meeting 2013
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Talk 2:
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Homogeneous spaces of classical Lie groups and iterated residues at infinity

Localization theorems for equivariant cohomology of varieties with torus action provide tools to express cohomological invariants (for example integrals) only in terms of the fixed points of the action. After giving a brief introduction to the equivariant cohomology theory, I will show, using a simple example, how to express an integral (over a homogeneous space of a Lie group) as an iterated residue at infinity of some function. I will give a general formula for integrals over homogeneous spaces of classical groups $GL(n)$, $Sp(n)$ and $SO(n)$ and the first results for the case of the smallest of the exceptional Lie groups, G_2 .

Most of the results are described in detail in a paper, which is available at <http://arxiv.org/abs/1212.6623>