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Torus actions with collinear weights

Let G be an n -torus, M a compact manifold and $G \times M \rightarrow M$ an action of G on M having the property that the fixed point sets are isolated points. For such an action the equivariant cohomology ring of M sits inside a larger ring: the "assignment ring", (a ring which describes the "orbittype stratification" of M by fixed point sets of subgroups of G), and these two rings coincide if and only if M is a GKM manifold, i.e. if and only if for every fixed point, p , the weights of the isotropy action of G on the tangent space to M at p are pairwise non-collinear. In this talk I will describe what happens when one slightly weakens this condition: i.e. requires that at most two weights be collinear.

P.S. The results I will report on are joint with Catalin Zara and Sue Tolman.