

## Quasi-flag manifolds and moment graphs

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We will introduce and discuss a new class of topological  $G$ -spaces generalizing the classical flag manifolds  $G/T$  of compact connected Lie groups. These spaces --- which we call the  $m$ -quasi-flag manifolds  $F_m(G,T)$  --- are topological realizations of the rings  $Q_m(W)$  of  $m$ -quasi-invariant polynomials of finite reflection groups, where  $W$  is the Weyl group associated to  $(G,T)$ . Many properties and geometric structures related to the classical flag manifolds can be extended to quasi-flag manifolds, giving a topological meaning to algebraic properties of the rings of quasi-invariants and associated varieties. The spaces  $F_m$  can be obtained from  $G/T$  in a natural way --- by a topological 'gluing' construction that we call the  $m$ -simplicial thickening. This construction can be applied to more general spaces than  $G/T$ . For example, one can start with a partial flag manifold  $G/P$  or an arbitrary GKM manifold  $M$  that carries a  $G$ -action. In this last case, the role of the Weyl group --- or rather, its root system --- is played by the moment graph of  $M$ , to which we can now associate a generalized ring of quasi-invariants. (The talk is based on joint work with A. C. Ramadoss and Y. Liu)