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Combinatorial tools for cohomological calculations

GKM theory is the name often given to a combinatorial tool for computing torus-equivariant cohomology of suitably wellbehaved varieties. We describe an extension of GKM theory, which we call poset pinball, that allows us to calculate  $S^{1}$ equivariant cohomology for a much larger class of varieties. We finish with several examples and conjectures. Much of this work is joint with Megumi Harada (McMaster University).