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Dagan Karp and **Dhruv Ranganathan*** (dhruv_ranganathan@hmc.edu), 340 East Foothill Boulevard, Claremont, CA 91711, and **Paul L Riggins** (priggins@hmc.edu), 10800 Larrylyn Dr., Whittier, CA 90603. *Toric Symmetry in Gromov-Witten Theory and Enumerative Geometry: Blowups of Complex Projective Space.*

We study manifestations of toric symmetry in Gromov-Witten theory. In particular, we study the symmetries of toric blowups of complex projective space $\mathbb{C}\mathbb{P}^3$, including the cyclohedron, associahedron and permutohedron, all graph associahedra, as well as other toric blowups of $\mathbb{C}\mathbb{P}^3$. In general, a symmetry of a toric variety yields an automorphism in cohomology which lifts to the level of Gromov-Witten theory, and nontrivial automorphisms yield nontrivial relations in GW theory. We identify new nontrivial relations and discuss enumerative significance. (Received July 28, 2010)