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**Jeremy Pecharich\*** (jpechari@mtholyoke.edu), 50 College Street, South Hadley, MA 01075.

*Derived Symplectic Resolutions.*

Symplectic resolutions have become an integral part of representation theory with applications to symplectic reflection algebras, nilpotent orbits, and the  $n!$ -conjecture. Unfortunately, symplectic resolutions rarely exist! For example, a theorem of Misha Verbitsky states that if the quotient space  $V/G$  of a symplectic vector space by a finite group  $G$  has a symplectic resolution then  $G$  is generated by symplectic reflections and there are explicit counterexamples to show that the converse cannot hold. However, using the more flexible language of derived symplectic geometry due to T.Pantev, B.Toen, M.Vaquie, and G.Vezzosi we will provide a construction of a derived symplectic resolution for quotients  $V/G$  for  $V$  a symplectic vector space and  $G$  any finite subgroup in  $Sp(V)$ . With time permitting we will state a conjectural extension of the symplectic McKay correspondence of R. Bezrukavnikov and D. Kaledin to the derived symplectic setting. (Received September 25, 2012)