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Scott Joseph Larson* (scott.larson@okstate.edu). *Resolutions of Singularities of Closures of K -orbits in Flag Varieties.*

Let G be a connected complex reductive algebraic group and let K be the fixed points of an algebraic involution. The geometry of closures of K -orbits on the flag variety of G governs key properties in representation theory. We will construct new resolutions of singularities of closures of K -orbits which generalizes well-known resolutions of Schubert varieties using Bott-Samelson varieties. Examples will be explicitly given for the symplectic group. (Received September 06, 2019)