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Dimitar Grantcharov, Nikolay Grantcharov, Daniel K. Nakano* (nakano@uga.edu) and **Jerry Wu.** *On the computation of sheaf cohomology for Lie supergroups.*

Let \mathfrak{g} be a (simple) classical Lie superalgebra over the complex numbers. Recently, the speaker with his collaborators have constructed parabolic subalgebras, \mathfrak{b} , (like Borel subalgebras) where the detecting subalgebras (discovered by Boe, Kujawa and Nakano) can be viewed as the Levi component. By comparing the cohomology of \mathfrak{g} and \mathfrak{b} , we discovered an important relationship with the Poincare series of an ambient complex reflection group via the Bott-Borel-Weil theorem. Furthermore, these Poincare series describe the higher sheaf cohomology groups of the trivial line bundle over G/B where $\mathfrak{g} = \text{Lie } G$ and $\mathfrak{b} = \text{Lie } B$.

At the end of the talk, applications will be given to verifying a 2008 conjecture due to Boe, Kujawa and Nakano on the realization of support varieties for \mathfrak{g} .

This talk represents joint work with D. Grantcharov, N. Grantcharov and J. Wu. (Received January 02, 2019)