1145-15-2552   **Sima Ahsani*** (`sza0043@auburn.edu`). *Extension of some* log-*majorization inequalities to Lie groups.* Preliminary report.

The topic log-majorization of matrices have been studied extensively in matrix theory. Bertram Kostant in 1973 generalized the concept of log-majorization for matrices to Lie groups. In fact, he defined a preorder on noncompact connected semisimple Lie groups. We will look at some recent results on log-majorization inequalities including the geometric mean of two positive definite matrices and show their extension to the context of Lie groups using Kostant preorder. (Received September 25, 2018)