1146-22-297 **Tin-Yau Tam*** (`ttam@unr.edu`), 314C Davidson Math & Science Center, Department of Mathematics and Statistics, University of Nevada, Reno, Reno, NV 89557. *Extending matrix inequalities to Lie groups using Kostant's theorem.*

We will discuss how to extend some matrix inequalities by using B. Kostant's preorder on semisimple Lie groups and its characterization in terms of representations. The preorder and its characterization are given in Kostant's 1973 paper: *On convexity, the Weyl group and the Iwasawa decomposition*, Ann. Sci. École Norm. Sup. (4) **6** (1973), 413–455. (Received January 25, 2019)