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**P. S. Krishnaprasad\*** ([krishna@umd.edu](mailto:krishna@umd.edu)), P. S. Krishnaprasad, Professor, Institute for Systems Research, University of Maryland, College Park, MD 20742. *Optimality in Networks*.

Problems of optimal control on Lie groups are of broad interest and application dating back to the early days of geometric control theory. Special classes of integrable problems arise in the setting of rigid motion groups. In this talk we present recent developments along these lines pertaining to networks of many copies of systems on Lie groups, using reduction techniques. We consider low-dimensional examples of interest in engineering and biology. This is joint work with Eric W. Justh of the Naval Research Laboratory. (Received January 25, 2014)