

1154-15-913

Luyining Gan* (lzg0027@auburn.edu), **Tin-Yau Tam** and **Ming Liao**. *Differential geometry on matrix groups*.

The matrix data is often taken from a special matrix group, the mean value may lie outside the group if they are averaged using the Euclidean distance. Many authors proposed to compute matrix means using the geodesic distance defined by an invariant Riemannian metric on either the space of positive definite matrices or some special matrix groups. This talk is about some differential geometric aspects of matrix groups, related to averaging matrix data, like geodesics. Additionally, we will also present some results about curvature of matrix groups. (Received September 11, 2019)