Announcement

Seminar on Deformation Quantization

6. 5. 2022 at 15:30 CEST

Hybrid Seminar in SE 30 and

`https://uni-wuerzburg.zoom.us/j/92529190594?pwd=WkJvR1o1QUdldUNSSjFJbHB4c0Z0dz09`

Markus Schlarb (JMU Würzburg)

Stiefel Manifolds as Pseudo-Riemannian Submanifolds

In this talk, the real (compact) Stiefel manifold $\mathrm{St}_{n,k}$ is considered from an extrinsic point of view, i.e. as an embedded submanifold of the real $(n \times k)$-matrices $\mathbb{R}^{n \times k}$. A one-parameter family of pseudo-Riemannian metrics on an open $U \subseteq \mathbb{R}^{n \times k}$ is introduced such that $\mathrm{St}_{n,k} \subseteq U$ becomes a pseudo-Riemannian submanifold. This family of metrics on $\mathrm{St}_{n,k}$ coincides with a one-parameter family, called α-metrics, which has been recently introduced. Closed form expressions for the orthogonal projections onto tangent spaces can be derived for all metrics in this family. In addition, one obtains explicit formulas for pseudo-Riemannian gradients and pseudo-Riemannian Hessians.

Invited by Stefan Waldmann