ATELIER NSDC « ANALYSE DE DONNÉES DIRECTIONNELLES AVEC APPLICATIONS EN BIOMÉCANIQUE ET EN IMAGERIE MÉDICALE »

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NICDS WORKSHOP "THE ANALYSIS OF DIRECTIONAL DATA WITH APPLICATIONS TO BIOMECHANICS AND BIOMEDICAL IMAGING"

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Wishart Mixtures and Diffusion Tensor Imaging

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To say the least, the work of Harish–Chandra has had profound consequences in the development of mathematics. To some degree, the work is also apparent in statistics, however, due to the fact that most of statistics take place in a commutative setting, the profound non-commutative results are somewhat hidden. In this talk, we will assume non-commutativity, and by doing so, we will demonstrate the contribution to statistics in the setting of Wishart mixture models on the space of positive definite symmetric matrices. This has practical relevance to Diffusion Tensor Imaging which is a modern in vivo brain imaging technique that tracts the whole brain white matter fibers.