

سمینار هفتگی گروه آمار

Tensor Elliptical Distribution

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Abstract

The multilinear normal distribution is a widely used tool in tensor analysis of magnetic resonance imaging (MRI). Diffusion tensor MRI provides a statistical estimate of a symmetric 2nd-order diffusion tensor, for each voxel within an imaging volume. In this talk, the tensor matrix elliptical (TME) distribution is introduced as an extension to the multilinear normal (MLN) distribution. Some properties including distributions of affine transformation and marginals along with moments are given. An integral representation connecting densities of TME and MLN distributions is exhibited that is used in deriving the expectation of any measurable function of a TME variate. Some inferential issues are also addressed.