

A general setting for symmetric distributions and their relationship to general distributions

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Keywords: Skew-symmetric distribution; Symmetry-modulated distribution; Generalized symmetry; Action of a group on the sample space.

A standard method of obtaining non-symmetrical distributions is that of modulating symmetrical distributions by multiplying the densities by a perturbation factor. This has been considered mainly for central symmetry of a Euclidean space in the origin. This paper enlarges the concept of modulation to the general setting of symmetry under the action of a group on the sample space. The main structural result relates the density of an arbitrary distribution to the density of the corresponding symmetrised distribution. Some general methods for constructing modulating functions are considered. The results are illustrated by general examples.