

# L-cumulants, L-cumulant embeddings and algebraic statistics

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In this paper we generalize the combinatorial definition of cumulants. Obtained in this way L-cumulants keep all the desired properties of the classical cumulants like semi-invariance and vanishing for independent block of random variables. Also the formula for L-cumulants in terms of the conditional L-cumulants is the same as in the classical case. These properties make L-cumulants useful in algebraic analysis of statistical models. They also provide a natural separation measure for the product partition models.

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