χ² test for comparison of weighted and unweighted histograms

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Abstract

Widely used χ² homogeneity test for comparison histograms (unweighted) is generalized for cases involving unweighted and weighted histograms. Numerical examples illustrate an application of the method for case of histograms with small statistics of events and for the case of histograms with large statistics of events. The method can be used for comparison of simulated data histograms against experimental data histograms.

Key words: histogram, comparison, weight, experiment, simulation

PACS: 02.50.-r, 02.50.Cw, 02.50.Le, 02.50.Ng

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