

Do you need to compare two histograms not only by eye?

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Abstract

Although the use of histograms implies loss of information due to the fact that the actual data are replaced by the central values of the considered intervals, this graphical representation is commonly employed in scientific communication, particularly in Astrophysics. Sometimes this kind of comparison is unavoidable when one needs to compare new results with already published data only available in histogram format.

Unfortunately, it is not infrequent to find in the literature examples of histogram comparisons where the similarity between the histograms is not statistically quantified but simply justified or discarded “by eye”. In this poster several methods to quantify the similarity between two histograms are discussed. The availability of statistical packages, such as R^a, notably simplify the understanding of the different approaches through the use of numerical simulations.

^aR Core Team 2014, R: A Language and Environment for Statistical Computing, R Foundation for Statistical Computing, Vienna, Austria. URL <http://www.R-project.org/>

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