

CONVEX HULL PROBABILITY DEPTH

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ABSTRACT

We define a depth function based on the convex hull notion. Convex hull peeling depth is a well known approach to the nonparametric analysis of multivariate data (Barnett, 1976). It is intuitively appealing and computationally more feasible with respect to many other depth measures. However, it lacks a population analogue.

In this work, we define a new *population* depth function that solves some of the peeling depth drawbacks, maintaining some of its advantages. We discuss why this function, that we call *convex hull probability depth*, can be thought as a statistical depth function as defined by Zuo and Serfling (2000). We present some of its properties, along with its empirical counterpart and computational issues.

REFERENCES

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