

# Random approximation of convex bodies in Hausdorff distance

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Given a sample of independent random points distributed uniformly on (the boundary of) a convex body (a compact convex set with nonempty interior) we are interested in recovering the original body. A natural candidate is the convex hull of the sample which gives a random convex polytope. A lot of research has gone into determining how good this approximation is. As a measure of the quality of approximation, the missing volume has attracted more attention so far than the Hausdorff distance. Focusing on the latter, we survey existing results, fill some open gaps regarding asymptotic constants and point to even larger gaps. This talk is based on joint work with Joscha Prochno, Carsten Schütt and Elisabeth Werner.