The Shorth Plot

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The shorth plot is a tool to investigate probability mass concentration. It is a graphical representation of the length of the shorth, the shortest interval covering a certain fraction of the distribution, localized by forcing the intervals considered to contain a given point x. It is easy to compute, avoids bandwidth selection problems and allows scanning for local as well as for global features of the probability distribution. We prove functional central limit theorems for the empirical shorth plot. The good rate of convergence of the empirical shorth plot makes it useful already for moderate sample size.