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# BAHADUR'S REPRESENTATION OF SAMPLE QUANTILES BASED ON SMOOTHED ESTIMATES OF A DISTRIBUTION FUNCTION

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*Abstract:* Suppose $\hat{F}_n$ is a convolution-smoother of the standard empirical distribution function based on a random sample from a distribution $F$ with a positive density. Consider the smoothed sample quantile function $\hat{F}_n^{-1}(p) = \inf\{x : \hat{F}_n(x) \geq p\}$. Under appropriate conditions, we establish a pointwise Bahadur type representation theorem [1] from which local behavior can be inferred.

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