

# A New Left Truncated Gumbel Distribution: Properties and Estimation

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## Abstract

Gumbel probability distribution is an important probability distribution that has wide applications in various fields such as engineering, physics, hydrology, geology, etc. The study aims to generate a new truncated distribution by truncate the probability density function of the first type Gumbel distribution from the left side to obtain the Truncated Gumbel distribution from the left side within the period  $(0, \infty)$ . As we work in this paper on the derivation of the new truncated distribution formula and its characteristics. As well as discussing different methods of estimating its parameters, represented by the maximum likelihood method and Percentiles Estimation Method, then making a simulation of the comparison between methods of estimation.

