

Exploratory Plots in the Analysis of Extremes

Bikramjit Das

Singapore University of Technology and Design

Singapore

bikram@sutd.edu.sg

Souvik Ghosh *

Linkedin Corp.

Mountain View, CA, USA

sghosh@linkedin.com

Abstract:

Exploratory data analysis is often used to test the goodness-of-fit of sample observations to specific target distributions. A few such graphical tools have been extensively used to detect heavy-tailed behavior or extramal behavior in observed data. In this paper we discuss recent theoretical advancements in the understanding of asymptotic behavior of two such plotting tools: the Quantile-Quantile plot and the Mean Excess plot. As an application we suggest better practices in the use of these plots in practice.

Key words: extreme values, heavy-tailed distributions, quantile-quantile plots, mean excess plots