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**Etaf Alshwarbeh\*** (alsha1e@cmich.edu), **Felix Famoye** and **Carl Lee**. *Beta-cauchy distribution and its applications*. Preliminary report.

A four parameter beta-Cauchy distribution is defined which generalizes the Cauchy distribution. Various properties of the distribution are examined. The distribution is found to be unimodal and has a unimodal hazard function. We give necessary and sufficient conditions for the existence of the moments of the beta-Cauchy distribution. The usefulness of the new distribution is illustrated by applying it to several empirical data sets and comparing the results to some existing distributions. The beta-Cauchy distribution is found to provide great flexibility in modeling symmetric and skewed heavy-tailed data sets. (Received September 19, 2011)