TITLE Fitting phase--type scale mixtures to heavy--tailed risks

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Key words: Heavy-tailed claims, statistical inference, extremes.

Purpose of your paper: To introduce a new methodology for the statistical estimation of heavy—tailed risks.

Synopsis: We consider the fitting of heavy tailed risk distributions with a special attention to distributions with a non--standard shape in the "body" of the distribution. To this end we consider a dense class of heavy tailed distributions introduced recently, employing an EM algorithm for the maximum likelihood estimates of its parameters. We present methods for fitting to observed data, histograms, censored data, as well as to theoretical distributions. Numerical examples are provided with simulated data and a benchmark reinsurance dataset. We empirically demonstrate that our model can provide excellent fits to heavy--tailed data/distributions with minimal assumptions.

Note: If you are not presenting a paper for this Colloquium, please include as much detail as possible in your Synopsis (maximum three pages) to enable delegates to prepare for your session.