1120-62-15   **Tatjana Miljkovic***, 319 Upham Hall, and **Bettina Gruen** (`bettina.gruen@jku.at`), Linz, Austria. *Finite mixture modeling of univariate data with Non-Gaussian component distributions.* Preliminary report.

An alternative approach for flexible modeling of multimodal, heavy tailed insurance loss data is proposed based on finite mixture models of univariate distributions. The components distributions from six non-Gaussian parametric families which were previously used in actuarial modeling are considered with all components assumed to be from the same parametric family. Estimation of the models with a fixed number of components K is proposed based on the expectation-maximization (EM) algorithm using three different initialization strategies and model selection can be performed using information criteria such as the BIC. Risk measures, such as value-at-risk and tail-value-at-risk, can easily be computed for these mixture models. The results of the mixture models are compared to the composite Weibull models considered in recent literature as the best models for modeling heavy tail distributions. This modeling approach is demonstrated on a real insurance data set. (Received January 15, 2016)