

## Residuals and Functional Form in Accelerated Life Regression Models

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### Abstract

We consider Cox–Snell residuals of parametric log-location-scale regression models for censored data, with the aim of inferring the correct functional form of possibly misspecified covariates. The idea is to utilize the fact that Cox-Snell residuals of a correctly specified model are approximately exponentially distributed, and then perform an exponential regression on the computed residuals. The advantage of using Cox-Snell residuals is the proper treatment of censored residuals which is simplified by exponentiality. It turns out that the method performs satisfactory even for fairly high degrees of censoring. The approach also involves plotting of residuals versus each covariate with the aim of model checking.

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