

## Reliability Prediction of Tires Using Linear Mixed-Effects Model

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**Abstract :** We widely use normal linear mixed-effects model to analysis data in repeated measurement. In case of detecting heteroscedasticity and the non-normality of the population distribution at the same time, normal linear mixed-effects model can give improper result of analysis. To achieve more robust estimation, we use heavy tailed linear mixed-effects model which gives more exact and reliable analysis conclusion than standard normal linear mixed-effects model.

**Keywords :** reliability, tires, field data, linear mixed-effects model

**Conference Title :** ICMCSSE 2015 : International Conference on Mathematical, Computational and Statistical Sciences and Engineering

**Conference Location :** Melbourne, Australia

**Conference Dates :** December 13-14, 2015