Statistical process control for failure crushing time data using competing risks model.

ABSTRACT

This paper describes a Statistical Process Control (SPC) for failure crushing time data using competing risks model. The model is based on the widely known proportional hazard regression model for a variety of censoring. A competing risks model identifies the set of possible failed components given the true cause of failure. EM algorithm method is used to estimate the parameter of the model. The results of this study show that, the competing risks model performs well for SPC using SAS software.

Keyword: SPC; Competing Risks; Cox's Model; Reliability; EM algorithm.