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Document Title : *On software reliability growth modelling*

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Abstract : This thesis deals with the software reliability growth problem, measurements of reliability growth and the accuracy of these measurements. A new model in inter-failure time based on the Burr type XII distribution is proposed. This model is discussed in three versions: order statistics, Bayesian and non-homogenous Poisson process. Several statistical tools for the analysis of the accuracy of the predictive qualities are introduced. These tools are applied to test the performance of all of the three versions of the suggested model on three real and two generated data sets. The versions perform with variable accuracy, which suggests that no universal "best" among the three versions of the model