

# **A New Software Reliability Growth Model with Introduction of New Defects in the Test Process**

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## **Abstract**

Non-homogeneous Poisson process software reliability growth models are well-known tools to assess the reliability of software systems. However, most prior models overlook the introduction of new defects in the test process. It is especially so for open source softwares, because many programmers participate in the test and the software platform is not bound to a particular party. Considering the introduction of new defects, this paper proposes a modified model to assess reliability of open source softwares. Empirical results suggest that our proposed model well fits the failure data and presents a high prediction capability.

## **Keywords**

Non-homogeneous Poisson Process; Software Reliability Growth Model; New Defects; Software Test

## **Biography**

**Zelong Yi** is an Assistant Professor at Department of Transportation Economics and Logistics Management, College of Economics, Shenzhen University, China. He received his bachelor's degree from Beijing Normal University and his master's degree from Peking University. He received his PhD degree in Operations Management from Hong Kong University of Science and Technology in 2015.