

Department of Manufacturing Engineering and Engineering Management

Seminar Series

On the Solution of Renewal-type Equations

by

Prof. XIE Min

Professor

Department of Industrial and Systems Engineering
National University of Singapore

Date: August 2, 2010 (Monday)
Time: 10:00am - 11:00am (Tea Reception at 9:30am)
Venue: Room SET2 (SCOPE Executive Training Room 2)
SCOPE, Academic Exchange Building

ABSTRACT

In reliability and related studies such as warranty cost analysis, replacement and maintenance policies, inventory control, etc., we frequently face the problem of solving renewal equations which is a type of convolution integral equation. As we normally do not have close form solution, bounds or approximations are commonly used. In this talk, we first present an early study on a method based on direct integration of the Riemann-Stieltjes integral. A simple and iterative algorithm could provide surprisingly accurate results. We also discuss some recent studies that have been based on this method, such as error analysis, convergence properties, bounds and approximations, etc.

BIOGRAPHY

M. Xie did his undergraduate study at Royal Inst of Technology in Sweden and graduated with a MSc in 1984. He later received his PhD from Linkoping University in 1987. He joined the National University of Singapore in 1991 as one of the first recipients of the prestigious Lee Kuan Yew Fellowship. Currently, he is a professor at Dept of Industrial and Systems Engineering. Prof Xie was an invited professor to INPG, France, in 2000 and a William Mong Visiting Fellow to Univ of Hong Kong in

1996. He has published over 150 journal papers and 8 books, including "*Software Reliability Modelling*" by World Scientific, "*Weibull Models*" by John Wiley, "*Stochastic Aging and Dependence for Reliability*" by Springer, "*Advanced QFD Applications*" by ASQ Quality Press. He is an editor, associate editor and on the editorial board of more than 10 established international journals. He also served as main chair at a number of international conferences. Prof Xie has supervised 25 PhD students and his students hold regular position in banking, industry and academia in different continents. Prof Xie is elected fellow of IEEE and Inst of Engineer Singapore, and an elected member of Int Statistical Inst.

Enquiry: 3442 8420

All are welcome!

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