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DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

STAT6003 Research Postgraduate Seminar
cum
Seminar for Confirmation of Candidature

Mr. XU Ran

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will give a talk

entitled

**A TRUNCATED TYPE OF GERBER-SHIU FUNCTION
IN THE CLASSICAL RISK MODEL
WITH SURPLUS-DEPENDENT PREMIUM**

Abstract

In this talk, a truncated type of Gerber-Shiu function incorporating the minimum and the maximum surplus before ruin is proposed. In the classical Poisson risk model with the surplus-dependent premium (e.g. Cheung (2011)), a structure form of the truncated Gerber-Shiu function is derived. It shows that the key component lies in the so-called transition function. Then we obtain the explicit expressions of the transition function when the surplus-dependent premium rate is assumed as (i) constant, a form of (ii) linear function (e.g. credit interest model), and (iii) step function (e.g. threshold strategy model). Moreover, joint distributions of ruin-related quantities involving the maximum and the minimum surplus prior to ruin are obtained. Lastly, a MAP (Markovian Arrival Process) risk model is also considered.

Keywords: Truncated Gerber-Shiu function, Compound Poisson model, Surplus-dependent premium rate, Transition function.

on

Monday, August 3, 2015

2:30 p.m. – 3:30 p.m.

at

Room 301, Run Run Shaw Building

All interested are welcome