Séminaire de mathématiques actuarielles

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Salle/Room 5340, Pavillon André-Aisenstadt
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On Modeling Reinsurance through Capital Injections

Résumé/Abstract:

We consider a risk model where the deficits after ruin can be covered, at least partially, by reinsurance contracts with different levels of retention. To allow the insurance company to continue (survive) after ruin, the reinsurance payoffs are seen as capital injections, which come at a cost, the reinsurance premium. The problem is to determine the appropriate reinsurance retention level. Here to determine the optimal retention, the analysis uses a "fair reinsurance premium" based on the discounted expected value of capital injections.

Inspired by results of Z. Ben Salah (2014, Eur.Act. J.), we show that an explicit formula for this fair reinsurance premium exists, and it involves the accumulated claims modeled by a subordinator perturbed by a Brownian process. We illustrate the results with specific examples also for the case when there is no Brownian perturbation.

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