A multivariate Gaussian ruin problem

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Abstract

Let $X_i(t) - d_i(t)$ be the risk reserve process at the $i-$th line, where $(X_1(t), ..., X_n(t))$ is a centered Gaussian process with covariance matrix Σ_t.

It is said that the ruin happens if there exists $t > 0$ such that

$$X_i(t) - d_i(t) > q_i u,$$

for all $i = 1, ..., n$.

In the talk we derive the logarithmic asymptotics of infinite horizon ruin probability as $u \to \infty$.

Key words: logarithmic asymptotics, multivariate Gaussian process, ruin function.

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