

## 带注资的二维复合泊松模型的最优分红

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## Optimal dividend payments of the two-dimensional compound Poisson risk model with capital injection

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**摘要** 研究建立两类理赔关系的二维复合泊松模型的最优分红与注资问题,目标为最大化分红减注资的折现. 该问题由随机控制问题刻画,通过解相应的哈密尔顿-雅可比-贝尔曼(HJB)方程,得到了最优分红策略,并在指数理赔时明确地解决该问题.

**关键词:** [最优分红](#) [注资](#) [哈密尔顿-雅可比-贝尔曼\(HJB\)方程](#) [随机控制](#) [二维复合泊松模型](#)

**Abstract:** This paper deals with the optimal dividend payment and capital injection problem for a two-dimensional compound Poisson risk model which constructs correlation among the two claims. The objective of the corporation is to maximize the discounted dividend payments minus the penalized discounted capital injections. The problem is formulated as a stochastic control problem. By solving the corresponding Hamilton-Jacobi-Bellman (HJB) equation, we obtain the optimal dividend strategy of the problem. We solve this problem explicitly in the case of exponential claim amount distributions.

**Keywords:** [optimal dividends](#), [capital injection](#), [Hamilton-Jacobi-Bellman \(HJB\) equation](#), [stochastic control](#), [two-dimensional compound Poisson risk model](#)

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