

Finite time ruin probabilities for Phase- type claims.

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For the Sparre Andersen model of risk theory, we obtain a formula for the joint Laplace transform of the time to ruin, the number of claims until ruin and the deficit at ruin when the claim amounts are phase type, and times between claim arrivals are i.i.d with general distribution. This extends a recent result of Borovkov and Dickson (2008). As an application of the main result, we obtain in particular and for special cases of the distributions of claim sizes and interclaim times, the exact distribution of the number of claims until ruin.