Willmot, Gordon E.; **Cai, Jun**; **Lin, X. Sheldon**
Lundberg inequalities for renewal equations. (English) Zbl 1003.60081
Adv. Appl. Probab. 33, No. 3, 674-689 (2001).

Sharp upper and lower bounds are derived for the solution to the renewal equation, which arises in a wide variety of applied probability models. These include exponential bounds for specific cases. In the case of defective renewal equation non-exponential bounds are obtained. The exact nature of these bounds depends on reliability properties and classifications. Applications of these results in examples involving the severity of insurance ruin, age-dependent branching processes, and a generalized type II Geiger counter are also given.

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MSC:

60K25 Queueing theory (aspects of probability theory)
60K30 Applications of queueing theory (congestion, allocation, storage, traffic, etc.)

Keywords:

adjustment coefficient; defective renewal equations; compound geometric; Cramér-Lundberg asymptotic estimate

Full Text: DOI