EDGEWORTH EXPANSIONS FOR COMPOUND POISSON PROCESSES AND THE BOOTSTRAP

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Abstract. One-term Edgeworth Expansions for the studentized version of compound Poisson processes are developed. For a suitably defined bootstrap in this context, the so called one-term Edgeworth correction by bootstrap is also established. The results are applicable for constructing second-order correct confidence intervals (which make correction for skewness) for the parameter "mean reward per unit time".

Key words and phrases: Renewal reward processes, Poisson process, studentization, confidence interval, approximate cumulant, non-lattice distribution, one-term Edgeworth correction by bootstrap.