

# COPULA-BASED RELIABILITY ESTIMATION FOR MULTICOMPONENT REPAIRABLE SYSTEMS VIA TIME-TRUNCATED NHPP WITH POWER LAW INTENSITY

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We present estimation of  $R = P(S_{N_1(T)+1} < S_{N_2(T)+1})$  for two dependent non-homogenous Poisson processes (NHPPs),  $\{N_1(t), t > 0\}$  and  $\{N_2(t^*), t^* > 0\}$  under time-truncated sampling scheme.  $S_{N_j(T)+1}, j = 1, 2$  denotes the arrival time of the first event past a truncated time T. Clayton copula and Power Law intensity function for NHPP are used. A modified multistage inference functions for margins (MMIFM) method is proposed that provides equal-sized samples extracted from the initial samples of arrival times from the two NHPPs. The extracted samples are used to maximize the part of the likelihood function that measures the dependency structure between the two processes. The accuracy of the estimator for  $R$  is verified by simulations studies.