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MORE COMPARISONS OF MLE WITH UMVUE FOR EXPONENTIAL FAMILIES

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Abstract. Under some regularity conditions, the asymptotic expected deficiency (AED) of the maximum likelihood estimator (MLE) relative to the uniformly minimum variance unbiased estimator (UMVUE) for a given one-parameter estimable function of an exponential family is obtained. The exact expressions of the AED for normal, lognormal, inverse Gaussian, exponential (or gamma), Pareto, hyperbolic secant, Bernoulli, Poisson and geometric (or negative binomial) distributions are also derived.

Key words and phrases: Asymptotic expected deficiency, exponential family, MLE, UMVUE.