FISHER INFORMATION IN k-RECORDS

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Abstract. We derive some general results on the Fisher information (FI) contained in the upper (or lower) k-record values and associated k-record times generated from an i.i.d. sample of fixed size from a continuous distribution. We apply the results to obtain the FI in both upper and lower k-record data from an exponential distribution. We propose two estimators of the exponential mean, based on the upper and lower k-record data, and discuss their small sample properties. We also consider k-record data from an inverse sampling plan, and present general formulas for the FI contained in it.

Key words and phrases: Record values, record times, k-record values, Fisher information, exponential distribution, parameter estimation, inverse sampling.