

Jan 27,00

Q1. Find the Cramer-Rao lower bound for the estimation of the location parameter θ from the Cauchy Distribution

$$p(\theta, x) = \frac{1}{\pi} \frac{1}{1 + (x - \theta)^2}$$

Q2. Find the maximum likelihood estimator based on a sample of size n from the exponential distribution

$$f(\theta, x) = \theta e^{-\theta x}$$

for $x \geq 0$. Is it unbiased or can it easily be made unbiased ? Is it efficient?

Feb 3,00

Q1. What is the MLE for θ based on a sample of size n from the two side exponential family

$$\frac{1}{2} \exp[-|x - \theta|]?$$

Is it unbiased?

Q2. What is the Cramer-Rao Lower Bound?

Q3. What is the asymptotic variance of the MLE?