**MBSA Project Report**

**Problem Statement:**

Estimating the parameters of a sinusoidal signal corrupted by additive white Gaussian noise using MLE.

**Chosen Model:**

**Parameters of interest:**

A, f0, Ø

**Estimator:**

Maximum Likelihood Estimator

**Analysis planned:**

* Generating the data in matlab using inbuilt functions.
* Calculating the CRLB.
* Estimating the parameters A, using MLE assuming that f0 is known.
* Estimating the parameters A, considering f0 is unknown.
* Perform Monte-Carlo Simulations for better estimation of the parameters.

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