

GRADUATE SEMINAR

Rubing Luo

Construction of confidence intervals and hypothesis testing for the mean of a normal population when the coefficient of variation is known

Msc Student supervised by Andrei Volodin

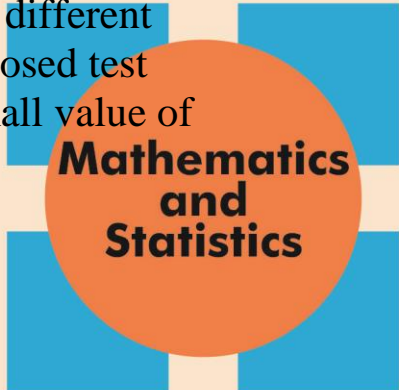
Monday, August 28

3:30 PM

Math Lounge (CW307.20)

Abstract: Approximation of confidence interval and hypothesis testing for a normal mean when the coefficient of variation is known, is of practical interest. We construct statistical tests for the normal mean based on the best asymptotically normal estimator with minimum variance and the minimum risk scale equivariant estimator and the modified version of them. We calculate the coverage probability and width length of confidence interval of five estimators. We also develop hypothesis tests for normal mean in case of known coefficient of variation. We estimate the type I error and the power of the proposed statistics under different situations. The simulation results show that all proposed test statistics perform better for a large sample and a small value of coefficient of variation.

University
of Regina

The logo for Mathematics and Statistics, featuring a central orange circle with the text "Mathematics and Statistics" inside, surrounded by four blue squares in a cross pattern.

Mathematics
and
Statistics