

MATH COLLOQUIUM SERIES



SCHOOL OF MATHEMATICAL SCIENCES
UNIVERSITI SAINS MALAYSIA



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NONPARAMETRIC FIXED AND VARIABLE SAMPLING INTERVAL GENERALLY WEIGHTED MOVING AVERAGE MOVING SIGN CHART

The quality of processes in the manufacturing industry is significantly improved by innovative production technology. In Statistical Process Control (SPC), the use of control charting techniques for process monitoring in manufacturing and services is becoming progressively important. The objective of this research is to evaluate how nonparametric (NP) techniques can influence the performance of the generally weighted moving average (GWMA) chart. The designs of the fixed and variable sampling interval GWMA chart are based on moving sign statistics. The performances of the new charts are examined using criteria such as the average run length (ARL), average time to signal (ATS), standard deviation of time to signal (SDTS), expected average time to signal (EATS), and expected standard deviation of time to signal (ESDTS). A performance comparison with the recently developed counterparts such as the EWMA chart is made.



Thursday, 10 October 2024
3:00 – 4:00 pm (Malaysia)
<https://bit.ly/MCS10-10-2024>

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