

**MEASUREMENT SYSTEM ANALYSIS (GAUGE R&R) PADA ALAT
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Abstract

Seawater contains various compounds, one of which is sulfate. To determine sulfate levels in seawater, there is a sulfate level measurement system using a spectrophotometer.

In the measurement system for sulfate levels in seawater using a spectrophotometer, there are several components that cause variations in the measurement process. These components are measuring instruments and operators. For the measurement of sulfate levels using a spectrophotometer, the operator needs to take several steps to prepare samples and auxiliary materials, all of which can affect the performance of the operator which in turn will contribute to the large variation of the operator's components. Measurement system analysis (MSA) is a comprehensive assessment of a measurement process. In this study, MSA used a gauge repeatability and reproducibility (Gauge R&R).

The data used are absorbance results that have been processed into sulfate concentration values using a calibration curve. The calculation of the Gauge R&R value using the ANOVA method, and the results conclude that the measurement system is unacceptable with the operator factor as the biggest contributor to the error.

Keyword: Spectrophotometers, Sulfate, MSA, Gauge R&R