

# Indicators of Gas Source Proximity using Metal Oxide Sensors in a Turbulent Environment

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- We address the problem of estimating the distance to a gas source using concentration measurements.
- The difficulty in a real-world environment is that the gas distribution is turbulent, i.e. the concentration field does not have smooth gradients.
- Previous experiments showed that gas sensor readings recorded during a rotation manoeuvre can be discriminated according to the distance from the gas source using machine learning techniques.
- We investigate possible indicators of gas source proximity in the learned models. A correlation analysis showed that the response variance was a better indicator than the average response.

