ROS Online

Air Quality Measurement

MATURATION

BENEFICES

- Measurement of exposure to air pollution.
- Improvement of emissions from industrial processes or finished products.
- Improving health
- Reduction of sanitary costs

MOTS CLEFS

- Air Quality
- Fine particles
- Oxidizing potential
- Health impacts

PROPRIETE INTELLECTUELLE

1 patent

LABORATOIRE

IGE – Institut des géosciences de l'environnement

MATURITE

Proof of concept

CONTACT

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Automated equipment for measuring the biological impact of air pollution

BACKGROUND

Poor air quality is responsible for 7 million premature deaths worldwide (induced costs of 101 billion Euros annually in France, twice as much as tobacco), mostly related to exposure to "fine particles". Air Quality regulations are based on particle mass, which is an incomplete metric for predicting health effects. “Oxidizing Potential" (i.e. the ability of atmospheric components to oxidize the lung environment) is seen as a promising metric.

TECHNOLOGY

The proposed development brings methodological and technological innovations based on the unique know-how of the team, leader in oxidizing potential measurements in France. The aim is to develop a device for the automated measurement of Oxidizing Potential.

ADVANTAGES

Increased sensitivity that allows measurement in the majority of outdoor air environments (10 µg/m3 of particulate density).
Key parameter based on the common denominator of cardio-respiratory ailments to warn about the health impact of pollution.

STATE OF PROGRESS

A proof of concept is in progress at the laboratory. Several field measurement campaigns are programmed.

APPLICATIONS

- Monitoring of air quality by regulatory authorities
- Industrial process control
- Measurement of the toxicity of pollutants emitted by industrial processes or a finished product (car, heating system, cigarettes)