

# Assessment of fine particles pollution inside the kitchen of a house by an optical sensor

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**Introduction and objectives:** Air pollution is the contamination of the indoor or outdoor environment by any chemical, physical or biological agent that alters the natural characteristics of the atmosphere. Indeed, the concentration of the main pollutants has increased due to the scale of fossil fuel-consuming and polluting activities. Among these pollutants, fine particles (PM) represent a major indicator of air quality. The objective of this work is to evaluate the evolution of pollution by fine particles inside an ordinary apartment in Algeria and more precisely in its kitchen. **Methods:** The level of pollution by fine particles was measured for 8 days, in January 2023, using the APOMOS system (Air Pollution Monitoring System) which includes a multi-sensor card of the ZPHS01B-Winsen type. It is equipped with the PMS7003M sensor dedicated to the detection of fine particles. **Results:** The study shows that in the study area, particle pollution inside the house reaches levels which sometimes exceed the limit value which is  $80 \mu\text{g}/\text{m}^3$  and reach alarming rates. **Conclusion:** this study confirms that particle pollution inside the house is significant when gas cooking is in operation.

**KEY WORDS:** Fine particles; Indoor pollution; Optical sensor; Gas cooking

**Author:** KOUIDER NOUREDDINE , Mecherouh

**Co-authors:** Dr RAHAL, Farid (Laboratory of Analysis and Application of Rayonnements, University of Sciences and Technology of Oran, Mohamed Boudiaf, Oran, Algeria); Prof. BENABADJI, Noureddine (Laboratory of Analysis and Application of Rayonnements, University of Sciences and Technology of Oran, Mohamed Boudiaf, Oran, Algeria)

**Presenter:** KOUIDER NOUREDDINE , Mecherouh

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