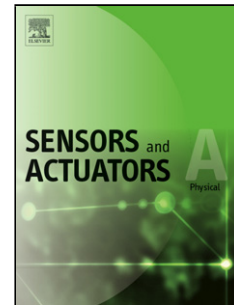


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Title: Exploitation of an integrated microheater on QCM sensor in particulate matter measurements

Authors: E. Zampetti, A. Macagnano, P. Papa, A. Bearzotti, F. Petracchini, L. Paciucci, N. Pirrone



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Exploitation of an integrated microheater on QCM sensor in particulate matter measurements

Authors:

E. Zampetti, A. Macagnano, P. Papa, A. Bearzotti, F. Petracchini, L. Paciucci, N. Pirrone

Affiliations and addresses:

¹Consiglio Nazionale delle Ricerche - Istituto sull'Inquinamento Atmosferico (CNR-IIA),
Via Salaria Km 29.300, 00015 Monterotondo (RM), Italy

Corresponding Author:

Dr. Emiliano Zampetti

e.zampetti@iia.cnr.it

Ph: +39 0690672299

Highlights

- A grease coated QCM sensor with an integrated microheater developed to detect particulate matters is presented.
- Experimental results of particulate matter measurements, performed at two controlled working temperature of grease coating, are reported and discussed.

Abstract

Most QCM-based devices devoted to PM measurement use substrates of various kinds to collect and retain particles. The novelty of this work is the possibility to use an integrated microheater actuator to change the substrate collecting features during the particulate adsorption. In fact, this paper presents preliminary results about the exploitation of a HQCM (Heated Quartz Crystal Microbalance) in particulate matter (PM) measurements. HQCM is a 10 MHz quartz crystal microbalance with a microheater and a resistive temperature detector (RTD) implemented on its

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