

Non-dispersive pyroelectric gas detector



Overview

The schematic diagram of the proposed NDIR multiplexed gas sensing platform, which is composed of three parts: the broadband light source, the gas cell and the multiplexed sensor with necessary focusing o.



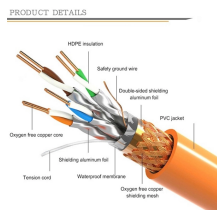
Non-dispersive pyroelectric gas detector



In this study, a gas detection system based on the principle of the non-dispersive infrared (NDIR) technique is proposed.



Here, we propose a multiplexed NDIR gas sensing platform consisting of a narrowband infrared detector array as read-out.



A CO sensor is engineered utilizing the principle of non-dispersive infrared (NDIR). The sensor consists of a broadband infrared light source (HIS2000R-0WC), a 3-meter path multi pass ...



In this study, a non-dispersive infrared (NDIR) multi-gas detection system consisting of a single broadband light source, gas cell, and four-channel pyroelectric detector was developed.



To the best of our knowledge, this is the first demonstration using ScAlN-based pyroelectric detectors in NDIR CO₂ gas sensing, towards practical sensor applications.



For each specific material, the absorption intensity depends on the wavelength of the infrared radiation. This principle uses a non-dispersive infrared gas analyzer (NDIR gas analyzer) for gas analysis.



digital output thin-film pyroelectric sensor for use in non-dispersive infrared detection. The single channel pyroelectric sensor device was fitted with a bandpass filter.



This principle uses a non-dispersive infrared gas analyzer (NDIR gas analyzer) for gas analysis. The analyzer consists of an electronically or mechanically modulated infrared source, a sample cell ...



We fabricated eight narrowband detectors whose detection wavelengths are aligned with the characteristic absorption wavelength of eight target gases: H₂S, CH₄, CO₂, CO, NO, CH₂O, NO₂, ...



In this paper, a miniaturized non-dispersive infrared CO₂ sensor with the design of dual-band single-gas-channel structure is proposed, which is based on the infrared pyroelectric effect.

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