

Title (en)
LASER GAS ANALYSIS

Title (de)
LASERGASANALYSE

Title (fr)
ANALYSE DE GAZ PAR LASER

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Abstract (en)
[origin: WO2012168588A1] The invention relates to a device for measuring the concentration of a molecule such as CO, NO, or NO₂ in a gaseous atmosphere, at a temperature of more than 1,200°C, in an enclosure, said molecule including an absorption line having a wavelength of between 4 and 8 micrometers, said device including an emitter (2) of laser radiation having a wavelength corresponding to that of the absorption line, said emitter (2) emitting laser radiation through a first window (4) and then through said atmosphere (7), said window (4) being made of a solid material having a transmittance, for a thickness of 1 mm of the material, that is greater than 50% of the wavelength of the laser radiation, the laser radiation being analyzed after an analyzer (11) has passed through said atmosphere (7), said analyzer determining the absorption of the laser radiation by the molecule in the gaseous atmosphere (7), the window (4) being arranged on or in a wall (6, 10) of the enclosure, if necessary via an insert, in order to prevent the hot atmosphere (7) of the enclosure from egressing therefrom. The invention enables the equipment upon which it is mounted to be measured continuously and during normal operation. The device according to the invention can be provided on a glass furnace, and can continuously measure the concentration of gas species in the hot atmosphere (7) during the normal operation of the furnace (1), thereby enabling the furnace burners to be adjusted during operation.

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Citation (search report)
See references of WO 2012168588A1

Citation (examination)
• US 2008223109 A1 20080918 - NITTA SATOSHI [JP], et al
• US 6512156 B1 20030128 - TIMMERMANS GERARDUS J [NL], et al

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