MONOCHROME RADIATOR TO DETECT CO₂

Jan KUBICKI

ABSTRACT The paper contains an analysis of the possibility of the emission and resonant absorption of radiation by carbon dioxide in pure form and in mixtures with other gases. The analysis was supplemented with experimental studies, where using particular methods to stimulate carbon dioxide in a pipe intense spontaneous emission of radiation was obtained in the range of 4.3 microns which exactly coincides with the CO₂ absorption band. The possibility of the practical use of the results to build a radiator emitting a collimated beam of monochromatic light for remote detection of CO₂ at greater distance was shown.

Keywords: radiator, carbon dioxide, the absorption of radiation