

A B S T R A C T

A METHOD AND APPARATUS FOR PREVENTING THE OCCURRENCE
OF FALSE RESPONSES IN OPTICAL DETECTION DEVICES

A method and apparatus for preventing the occurrence of false responses in optical detection devices, which are sensitive to changes or fluctuations in optical radiation emitted from a source. The following steps are carried out:

- a) receiving optical radiation emitted by a source;
- b) selecting a predetermined range of wavelengths;
- c) detecting changes in the received optical flux and deriving therefrom a signal having time series data (signal traces) at the detector output;
- d) analyzing the detected signal for its chaotic (i.e. aperiodic) behaviour by establishing the associated fractal dimension of the signal and using the existence of this fractal property of the said time series data of the optical radiation emitted by the said source to discriminate against those sources of fluctuating optical radiation which are periodic or intermittent; and
- e) only providing a response at the output of the optical detection device in case of chaotic behaviour of the source.

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This Sheet Has Been Replaced

