

A temperature compensated optical fibre bending sensor for physiological measurement

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ABSTRACT

The light attenuation measurement of a plastic optical fibre sensor based on a referenced intensity modulation technique with respect to different input voltage level and room temperature has been investigated. The results show that light attenuation at the sensor output and reference output are dependent on the source (LED) drive current and temperature, but the output ratio is small and tolerable for this application. This is significant for bending monitoring applications using optical fibre sensor based on intensity modulation, providing a more reliable technique based on power and temperature compensation.

KEYWORDS

Divided beam intensity referencing; Optical fibre bending sensor; Temperature compensation

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