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Research Article

Fabry-Pérot Fiber-Optic Sensors for Physical Parameters Measurement in Challenging Conditions

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Abstract
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Abstract

Optical fiber sensors have unique advantages and distinctive features that make them very attractive for many applications especially those involving challenging conditions where other traditional electrical sensors usually fail. Among the commercially available optical fiber sensors, the Fabry-Pérot sensing technology is probably the most versatile and the most interesting one since a relatively low-cost universal signal conditioner could easily read compatible Fabry Pérot sensors measuring different physical parameters such as strain, temperature, pressure, displacement, or refractive index. This papers details the numerous advantages of this optical sensing technology and also summarizes the operating modes of commercially available signal conditioners and sensors.