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[\[PDF \(230K\)\]](#) [\[References\]](#)**FBG STRAIN SENSOR WITH SIMPLE TEMPERATURE
COMPENSATION MECHANISM**Hiroshi HAYANO¹⁾ and Akira MITA¹⁾

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A FBG-based strain sensor equipped with a mechanical temperature compensation system is proposed. Direct bonding of a FBG element may cause broadening of the reflected optical spectrum due to fluctuation of strain distribution of the material under the FBG element. The proposed sensor avoids this difficulty by introducing a mechanism to induce uniform strain distribution to the FBG element. In addition, a simple mechanical system that can cancel the effect of temperature on the strain measurement eliminate the need for another FBG sensor for temperature compensation. Extensive tests have been conducted using prototype sensors. The results showed their excellent performance.

Key Words: FBG sensor, strain measurement, temperature compensation[\[PDF \(230K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

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