Error Analysis of Fiber Optic Transmission Sensors

Ma et al. have presented an error analysis of temperature-compensated white-light interferometric fiber-optic strain sensor. The theoretical and experimental analysis demonstrates its potential for practical ...

Based on the DC equal ampere-turn method and linear interpolation, a nonlinear error measurement, modeling, and compensation method for fiber-optic current transformers is proposed.

Therefore, this paper reveals the correlation mechanism between the temperature gradient distribution driven by the conductor current-carrying capacity and the nonlinear error by establishing ...

Measurement accuracy is essential for the all-fiber optic current sensor. Angle errors of axis alignment in the fusion processing affect the measurement accuracy with different modulation and ...

By identifying the key factors of bias error and setting the propagation directions of a super-luminescent diode, polarization-maintaining coupler and polarizer to fast axis, it is possible to eliminate the ...

We designed new signal processing algorithms to compensate for errors caused by internal factors in the measurement circuit, as well as those caused by environmental influences. We ...

The nonlinear error model of the fiber optic current sensor in the measurement range of 1~1400kA under typical parameters is simulated.

Brief theory of sensing principle, fabrication method, applications, advantages and disadvantages of the different fiber-optic sensors, are addressed. Recent progress in numerous ...

A complete optical model of the optical fibre current sensor is developed under the efect of polarization error factors. In addition, the efect of polarization error factors on the optical fibre sensing system is ...

Aiming at the problem that the accuracy of a fiber optic current sensor is susceptible to external disturbances and temperature fluctuations, we present an adaptive technology of a fiber ...

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