

High-speed monitoring and sensing technology is enabled with efficient algorithms for use in determining strain, shape deformation, temperature, liquid level and operational loads - in real time. FOSS uses ...

Fiber-optic 3D shape sensing technology, renowned for its immunity to electromagnetic interference and unparalleled spatial accuracy, is indispensable for real-time deformation monitoring ...

By integrating FBG-based angle, shape, and twist sensors on the joints in accordance with the degrees of freedom (DOF), our system reconstructs multi-DOF body movements in 3D.

In this work, we propose a novel, computationally efficient method for determining the 3D tip position of a bent multi-core FBG-based optical fiber using a second-order polynomial ...

Fiber optic shape sensing uses embedded sensors to measure the full 3D shape of a flexible surgical device along its entire length in real time. By sensing the device itself from the inside, it provides ...

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The demonstration shows an accurate positioning and sensitive vibration monitoring applied on the automated three-dimensional (3D) printed bridge, which is applicable to all kinds of 3D ...

A highly accurate 3D shape sensing scheme based on special fiber OFDR is proposed and demonstrated. Combining with ICP algorithm, the maximum reconstruction error is effectively ...

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Fiber Optic Shape Sensing is an innovative Optical Fiber Sensing Technology that uses a fiber optic cable to continuously track the 3D shape and position of a dynamic object (with unknown ...

Lightera has developed a technology platform to produce high quality, twisted multi-core optical fiber with continuous FBGs (Fiber Bragg Gratings) to meet critical 3D shape sensing specifications.

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