

Modalmetric Fiber Sensor and Its Applications

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Abstract : The team from IOE MUT is developing fiber optic sensors for the security systems for 15 years. The conclusions of the work indicate that these sensors are complicated. Moreover, these sensors are expensive to produce and require sophisticated signal processing methods. We present the results of the investigations of three different applications of the modalmetric sensor: • Protection of museum collections and heritage buildings, • Protection of fiber optic transmission lines, • Protection of objects of critical infrastructure. Each of the presented applications involves different requirements for the system. The results indicate that it is possible to develop a fiber optic sensor based on a single fiber. Modification of optoelectronic parts with a change of the length of the sensor and the method of reflections of propagating light at the end of the sensor allows to adjust the system to the specific application.

Keywords : modalmetric fiber optic sensor, security sensor, optoelectronic parts, signal processing

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