

Detecting and Minimizing Polarization Crosstalk in PM Fibers Distributed Polarization Crosstalk Measuring Station

Polarization-maintaining (PM) fibers guide light into two orthogonal main propagation axes. It is possible that light from one main axis switches to the other. This polarization crosstalk has three possible causes:

Misalignment: If the main axes of two PM fibers connected by splicing or with a connector are not optimally aligned, local crosstalk can occur. The amplitude depends on the offset angle.

Irregularities in the assembly of a PM fiber produce light crosstalk that can show up distributed continually across a larger fiber section.

External mechanical stress can produce localized or distributed crosstalk with different amplitudes.

LASER COMPONENTS offers the PXA-1000 distributed polarization crosstalk measuring station from General Photonics that is able to measure the polarization crosstalk at specific locations along a fiber: The intensity and the location of discrete polarization crosstalk can be precisely determined to within a few centimeters. If continual or quasi-continual crosstalk occurs in the fiber, the PXA can locate the accumulated crosstalk.

The PXA-1000 is based on a white-light interferometer that filters out the disturbing zero order interferences and minimizes multiple interferences. This reduces "ghost peaks" and makes measurement possible.

The PXA-1000 is suited for the characterization of PM fiber spools, PM fibers, and PM wave-guide structures. If the PM fiber is used as a sensor, the PXA can detect the specific location of changes in mechanical stress.

In addition, the PXA measures the polarization extinction ratio (PER) of optical wave-guide structures, the autocorrelation function of fiber optic light sources, the double refraction of PM fibers, and the fiber lengths of single-mode and PM fibers.

Trade Shows

Photonics West 2015, Feb, 10 - 12, 2015, Moscone Center, San Francisco, USA, **Booth 2023**
OFC 2015, Mar, 24-26, 2015, Los Angeles Convention Center, Los Angeles, **Booth 2424**
DSS 2015, Apr 21-23, Baltimore Convention Center, Baltimore, MD, **Booth 1125**
Sensor+Test 2015, May, 19 - 21, 2015, Messe Nürnberg, Germany, **Booth 12.117**
Anga Com 2015, Jun, 09 - 11, 2015, Messe Köln, Germany
LASER. World of Photonics 2015, Jun, 22 - 25, 2015, Messe München, Germany, **Booth B3.303**

The Company

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