

Title (en)

METHOD AND APPARATUS FOR DETERMINING DIFFERENTIAL GROUP DELAY AND POLARIZATION MODE DISPERSION

Title (de)

VERFAHREN UND VORRICHTUNG ZUR BESTIMMUNG DER DIFFERENZ-GRUPPENVERZÖGERUNG UND POLARISATIONSMODENDISPERSION

Title (fr)

PROCÉDÉ ET APPAREIL DE DÉTERMINATION DE TEMPS DE PROPAGATION DE GROUPE DIFFÉRENTIEL ET DISPERSION EN MODE POLARISATION

Publication

EP 2140243 A1 20100106 (EN)

Application

EP 08733675 A 20080328

Priority

- CA 2008000577 W 20080328
- US 90731307 P 20070328
- US 72775907 A 20070328

Abstract (en)

[origin: WO2008116314A1] A method and apparatus for measuring at least one polarization-related characteristic of an optical path (FUT) uses a light input unit connected to the FUT at or adjacent a proximal end of the FUT and a light output unit connected to the FUT at or adjacent its proximal or distal end. The light input unit injects into the FUT at least partially polarized light having a controlled state of polarization (I-SOP). The output light unit extracts corresponding light from the FUT, analyzes and detects the extracted light corresponding to at least one transmission axis (A-SOP), and processes the corresponding electrical signal to obtain transmitted coherent optical power at each wavelength of light in each of at least two groups of wavelengths, wherein the lowermost (λ_{min}) and uppermost (λ_{max}) said wavelengths in each said group of wavelengths are closely-spaced. A processing unit then computes at least one difference in a measured power parameter corresponding to each wavelength in a wavelength pair for each of the at least two groups, the measured power parameter being proportional to the power of the said analyzed and subsequently detected light, thereby defining a set of at least two measured power parameter differences; computes the mean-square value of said set of differences; and calculating the at least one polarization-related FUT characteristic as at least one predetermined function of said mean-square value, the predetermined function being dependent upon the small optical frequency difference between the wavelengths corresponding to the said each at least said two pairs of closely-spaced wavelengths.

IPC 8 full level

G01M 11/02 (2006.01); **H01S 3/067** (2006.01); **H01S 3/082** (2006.01); **H01S 3/23** (2006.01); **H01S 5/026** (2006.01); **H01S 5/10** (2006.01)

CPC (source: EP)

G01M 11/335 (2013.01); **G01M 11/336** (2013.01)

Citation (search report)

See references of WO 2008116314A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2008116314 A1 20081002; CN 101688819 A 20100331; CN 101688819 B 20140129; EP 2140243 A1 20100106

DOCDB simple family (application)

CA 2008000577 W 20080328; CN 200880018323 A 20080328; EP 08733675 A 20080328