Universidad de Alcalá

SYSTEM AND METHOD OF DISTRIBUTED CONTINUOUS CHARACTERIZATION OF AN OPTICAL FIBER MEDIA

Patent
ES2528327ES2561679B2

Code

TIC_UAH_10_P

Application areas

- Information and Communication Technologies
- Industrial Manufacture, Material and Transport technologies
- Energy

Type of Collaboration

- Technical cooperation
- Commercial agreement and Technical assistance
- License agreement

Main Researchers

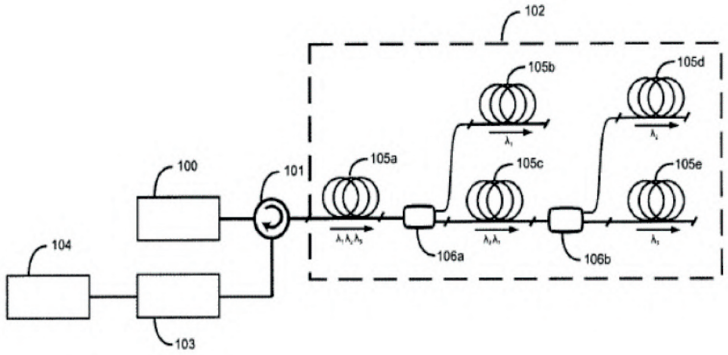
Prof. Miguel González Herráez
Dra. Sonia Martín López

CONTACT

OTRI Universidad de Alcalá
Escuela Politécnica Superior
Campus Científico-Tecnológico
28805, Alcalá de Henares
(Madrid)
(+34) 91 885 45 61
otriuah@uah.es

@otriuah

OTRI Universidad de Alcalá



ABSTRACT

It is a system and a sensing method which allows the fully distributed characterization of optical fiber media with an arbitrary branching of ramifications using wavelength multiplexing techniques to interrogate and identify the different branches of such optical fiber media. As a first aspect of the invention, is presented a distributed characterization system with at least one branch in which there are two or more segments of optical fibers. As a second aspect of the invention, is presented a distributed characterization method applied to an optic fiber media, with at least one branch comprising at least two optical fiber segments.

In one of its preferential implementations, the method consists on characterize the optical fiber media by an optical reflectometry technique sensible to the phase (ϕOTDR).

ADVANTAGES AND INNOVATIONS

The system and the method of the present invention allow the characterization of optic fiber medias with an arbitrary topology branches without using measurement equip- ment in each ramification.

The competitive advantages of this invention are as follows: Application in complex networks with arbitrary branches without adding measuring equipment in each of the branches. Characterization fully distributed, providing decisive measures in length, continuous, and not sampled. Adaptation to any fiber optic topology, sensing techniques and distributed metrology.