

Title (en)
METHOD FOR LOCALLY RESOLVED PRESSURE MEASUREMENT

Title (de)
VERFAHREN ZUR ORTSAUFGELOSTEN DRUCKMESSUNG

Title (fr)
PROCÉDÉ DE MESURE DE PRESSION À RÉOLUTION SPATIALE

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Application
EP 13796047 A 20131125

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Abstract (en)
[origin: WO2014082965A2] The invention relates to a method and device for locally resolved pressure measurement along a pressure region. Using a glass optical fibre (11) comprising an optical fibre core (11''), an optical fibre cladding (11'), and an outer protective coating (16) running inside a tubular enclosure (6) in the longitudinal direction of the enclosure (6), pressure acting isotropically on a length section of the tubular enclosure (6) arranged along the pressure region (15) is transformed into an asymmetric pressure load on the region of the optical fibre cladding (11) lying within the length section. The double refraction caused by the asymmetric pressure load in this length section is detected by using a reflection measurement along the optical fibre (11), and the pressure acting on the length section is determined from the asymmetric pressure load determined in this manner. Using this invention it is possible to measure locally resolved pressure along the optical fibre (11) and thus to determine in an inexpensive fashion the development of pressure along the tubular enclosure (6) arranged in the pressure region (15).

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