

Title (en)

LOW-COHERENCE INTERFEROMETRIC METHOD AND APPLIANCE FOR SCANNING SURFACES IN A LIGHT-OPTICAL MANNER

Title (de)

NIEDERKOHÄRENZ-INTERFEROMETRISCHES VERFAHREN UND GERÄT ZUR LICHTOPTISCHEN ABTASTUNG VON OBERFLÄCHEN

Title (fr)

PROCEDE INTERFEROMETRIQUE A FAIBLE COHERENCE, ET APPAREIL DE BALAYAGE OPTIQUE DE SURFACES

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Application

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Abstract (en)

[origin: WO2005088241A1] The invention relates to a low-coherence interferometric appliance for scanning a surface (19) of an object in a light-optical manner, especially a concave surface (19), for example a borehole, using a short-coherence interferometer comprising a short-coherence measuring light source (30), a beam splitter (13) for splitting the light emitted by said source into a measuring light beam (23) and a reference light beam (22), a reference reflector (16), a measuring optical element (17), and a detector (35), to which the reflected measuring light beam (23) and the reference light beam (22) are supplied in order to detect a low-coherence interference signal. The measuring light beam (23) is focussed in a focal region (27) extending in a scanning direction, by a measuring optical element (17) having a maximum digital aperture of 0.3, a control and evaluation unit (6) varying a scanning position by a reference point inside said focal region, and registering the correspondence between the scanning position and the surface (19), in order to obtain information about the distance between the reference point and the surface (19) of the object. Location information about a light-reflecting position of the surface (19) is determined from the distance information and the position of the reference point.

IPC 8 full level

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