

Title (en)
OPTICAL FIBRE GYRO

Title (de)
OPTISCHER FASERKREISEL

Title (fr)
GYROMETRE A FIBRE OPTIQUE

Publication
EP 1390694 A1 20040225 (FR)

Application
EP 02732844 A 20020430

Priority
• FR 0201503 W 20020430
• FR 0106396 A 20010515

Abstract (en)
[origin: WO02093110A1] The invention concerns an optical fibre gyro comprising a Sagnac interferometer using two light waves (S1, S2) circulating in opposite directions in a close-loop waveguide (2), including a photodetector (4) delivering an electric signal (Ud) representing the light intensity of disturbances between the two waves, and means for optical phase-shift (5) of waves controlled by a slot modulation signal (Um) capable of controlling an optical phase-shift variation at a frequency F0 substantially equal to t^{-1} , wherein t is the travel time of a wave in the guide (2). The photodetector (5) is connected to at least first (34) and second (36) sampling circuits controlled in phase opposition by a clock (30) at frequency F0 and supplying two samples (A, B) at each period respectively on a first and a second differential amplifier input (64), an analog-to-digital converter (42) at the differential amplifier output (42) and an adder/subtractor (46) to accumulate numerical values successively supplied by the analog-to-digital converter (42). The gyro comprises means (28) for inverting, at a frequency much lower than the frequency F0 the clock phase (30) so as to alternate, at frequency f , the direction of the difference of samples at the differential amplifier output, the adder/subtractor (46) is likewise controlled at frequency f , to operate alternately as adder or as subtractor.

IPC 1-7
G01C 19/72

IPC 8 full level
G01C 19/72 (2006.01)

CPC (source: EP US)
G01C 19/726 (2013.01 - EP US)

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
WO 02093110 A1 20021121; CA 2446706 A1 20021121; EP 1390694 A1 20040225; FR 2824905 A1 20021122; FR 2824905 B1 20030829; US 2004246487 A1 20041209; US 7187448 B2 20070306

DOCDB simple family (application)
FR 0201503 W 20020430; CA 2446706 A 20020430; EP 02732844 A 20020430; FR 0106396 A 20010515; US 47736004 A 20040803