

Title (en)

OPTICAL TRANSDUCER, METHOD AND LASER DIODE ARRANGEMENT

Title (de)

OPTISCHER SENSOR, VERFAHREN UND LASERDIODENVORRICHTUNG

Title (fr)

TRANSDUCTEUR OPTIQUE, ET PROCEDE ET ENSEMBLE DIODE LASER ASSOCIES

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Abstract (en)

[origin: WO9740344A1] An optical transducer for determining distance or displacement of a mirror (3) comprises a laser diode (1) which is excited at constant current. The spectrum of the voltage signal across this laser diode is analysed and the spacing between this laser diode and the mirror (3) is determined from the formula $f = cm/2L$ where f is the frequency; c is the speed of light; m is the mode number and L is the effective optical length of the cavity. A force or other transducer can be coupled to the mirror (3) to enable force or other parameters to be determined. In another embodiment the laser beam is conducted to a remote optical cavity of variable length by an optic fibre and the frequencies in the remote cavity are measured by analysing the voltage signal across the laser diode.

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