

Title (en)

DEVICE AND METHOD FOR DETERMINING CHIRP OF A MACH-ZEHNDER TYPE ELECTRO-OPTICAL MODULATOR

Title (de)

EINRICHTUNG UND VERFAHREN ZUR BESTIMMUNG DES CHIRPENS EINES ELEKTROOPTISCHEN MODULATORS DES MACH-ZEHNDER-TYPS

Title (fr)

DISPOSITIF ET PROCEDE DE DETERMINATION DU "CHIRP" D'UN MODULATEUR ELECTRO-OPTIQUE DU TYPE MACH-ZEHNDER

Publication

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Application

**EP 03747468 A 20030428**

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Abstract (en)

[origin: WO03093777A2] The invention concerns a device and method for determining chirp of a Mach-Zender type interferometric electro-optical modulator by optical spectral analysis of a modulated optical signal, an optical signal of frequency  $\Omega_0$  produced by a source being modulated into an optical signal modulated by an electric signal, said electric signal comprising a periodic component of predetermined frequency  $\Omega$  and a continuous polarizing component, the chirp weighting the amplitude of the lateral optical lines of modulation frequency-shifted by  $\pm \Omega$  relative to  $\Omega_0$ . The invention is characterized in that the device comprises at least one means for optical measurement of at least one of the lateral lines and one controlling and calculating means, in a first measurement step, for sending a continuous component so that the optical phase difference  $\Phi$  between the two arms is substantially null and, in a second measurement step, for sending a continuous component such that the optical phase difference  $\Phi$  in absolute value between the two arms is substantially equal to  $\pi$ , the calculating means enabling at least the calculation for a given lateral optical line frequency the ratio of the measurement  $\pm \Omega$  to  $\Phi = 0$ , said ratio enabling the determination of the chirp. The invention also concerns a method for determining chirp.

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