

Title (en)
OPTICAL FOURIER TRANSFORM DEVICE AND OPTICAL CORRELATOR USING THE SAME

Publication
EP 0058592 B1 19850710 (FR)

Application
EP 82400164 A 19820128

Priority
FR 8102410 A 19810206

Abstract (en)
[origin: US4514038A] This optical Fourier transformer device supplying the correlation function of two motifs of an object illuminated in coherent light by using the double diffraction principle is essentially characterized in that it generates a complex wave conjugate of a wave modulated by the object propagating in the opposite direction to the latter. This conjugate wave is produced by double diffraction in an interaction medium and compensates the distortions induced by the optical components of the system. The optical correlator system utilizing this Fourier transformer is essentially characterized in that it uses a recyclable material as the recording medium. A reading beam is subject to an angular scan making it possible to optimize the diffraction efficiency of this medium. The beam modulated by the object and the reading beam are synchronously deflected to improve the signal to noise ratio in the output plane.

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IPC 8 full level
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CPC (source: EP US)
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