

Title (en)

MICROLENS ARRAYS HAVING HIGH FOCUSING EFFICIENCY

Title (de)

MIKROLINSENMATRIX MIT HOHER FOKUSSIERUNGSEFFIZIENZ

Title (fr)

MOSAIQUE DE MICROLENTILLES PRESENTANT UN RENDEMENT FOCAL ELEVE

Publication

**EP 1218777 A1 20020703 (EN)**

Application

**EP 01962321 A 20010730**

Priority

- US 0141475 W 20010730
- US 22203200 P 20000731

Abstract (en)

[origin: WO0210805A1] Microlens arrays (105) having high focusing efficiencies are provided. The high focusing efficiencies are achieved by accurately producing the individual microlenses making up the array at high fill factors. Arrays of positive microlenses are produced by forming a master having a concave surface-relief pattern (101) in a positive photoresist (21) using direct laser writing. Through this approach, the problems associated with the convolution of a finite laser beam with a desired profile for a microlens are overcome. The microlens arrays of the invention have focusing efficiencies of at least 75%.

IPC 1-7

**G02B 5/04**; **G02F 1/13**

IPC 8 full level

**B29C 33/38** (2006.01); **G02B 3/00** (2006.01); **B29L 11/00** (2006.01)

CPC (source: EP KR)

**G02B 3/00** (2013.01 - KR); **G02B 3/0031** (2013.01 - EP); **G02B 3/0043** (2013.01 - EP); **G02B 3/0056** (2013.01 - EP); **H01L 27/14627** (2013.01 - EP)

Cited by

US6042421A

Designated contracting state (EPC)

DE DK FR GB NL

DOCDB simple family (publication)

**WO 0210805 A1 20020207**; AU 8351401 A 20020213; CN 1200304 C 20050504; CN 1386204 A 20021218; EP 1218777 A1 20020703; EP 1218777 A4 20051228; JP 2004505307 A 20040219; KR 100878966 B1 20090119; KR 20020044154 A 20020614; TW 200502586 A 20050116; TW I238266 B 20050821; TW I241415 B 20051011

DOCDB simple family (application)

**US 0141475 W 20010730**; AU 8351401 A 20010730; CN 01802235 A 20010730; EP 01962321 A 20010730; JP 2002515480 A 20010730; KR 20027004154 A 20020329; TW 90118831 A 20010731; TW 93126107 A 20010731