

Title (en)

SEAMLESS, MASKLESS LITHOGRAPHY SYSTEM USING SPATIAL LIGHT MODULATOR

Title (de)

RAND- UND MASKENLASER LITHOGRAPHIESYSTEM MIT RÄUMLICHEM LICHTMODULATOR

Title (fr)

SYSTEME LITHOGRAPHIQUE SOUS MASQUE ET SANS DISCONTINUITE COMPRENANT UN MODULATEUR SPATIAL DE LUMIERE

Publication

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Application

EP 96925490 A 19960725

Priority

US 9612240 W 19960725

Abstract (en)

[origin: WO9804950A1] The invention is a seamless, projection lithography system that eliminates the need for masks through the use of a programmable Spatial Light Modulator (SLM) with high parallel processing power. Illuminating the SLM with a radiation source (1) provides a patterning image of many pixels via a projection system (4) onto a substrate (5). The preferred SLM is a Deformable Micromirror Device (3) for reflective pixel selection using a synchronized pulse laser. An alternative SLM is a Liquid Crystal Light Valve (LCLV) (45) for pass-through pixel selection. Electronic programming enables pixel selection control for error correction of faulty pixel elements. Pixel selection control also provides for negative and positive imaging and for complementary overlapping polygon development for seamless uniform dosage. The invention provides seamless scanning motion by complementary overlap to equalize radiation dosage, to expose a pattern on a large area substrate (5). The invention is suitable for rapid prototyping, flexible manufacturing, and even mask making.

IPC 1-7

G02B 26/00; **G03B 27/52**; **G03B 27/70**; **G03B 27/42**; **G03F 7/20**

IPC 8 full level

G02B 26/08 (2006.01); **G03F 7/20** (2006.01)

CPC (source: EP US)

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Citation (search report)

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