



US006967067B2

(12) **United States Patent**
Herr et al.

(10) **Patent No.:** **US 6,967,067 B2**
(45) **Date of Patent:** ***Nov. 22, 2005**

(54) **PATTERNING METHODS AND SYSTEMS USING REFLECTED INTERFERENCE PATTERNS**

(75) Inventors: **Daniel J. C. Herr**, Chapel Hill, NC (US); **David Charles Joy**, Knoxville, TN (US)

(73) Assignee: **University of Tennessee Research Foundation**, Knoxville, TN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/796,640**

(22) Filed: **Mar. 9, 2004**

(65) **Prior Publication Data**

US 2004/0170928 A1 Sep. 2, 2004

Related U.S. Application Data

(63) Continuation of application No. 09/781,881, filed on Feb. 12, 2001, now Pat. No. 6,730,443.

(60) Provisional application No. 60/185,288, filed on Feb. 28, 2000.

(51) **Int. Cl.**⁷ **G03H 5/00**; G03H 1/04

(52) **U.S. Cl.** **430/1**; 430/2; 430/322; 351/35; 351/15

(58) **Field of Search** 430/1, 2, 311, 322; 359/35, 15

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Primary Examiner—Martin Angebrannt

(74) *Attorney, Agent, or Firm*—Myers Bigel Sibley & Sajovec

(57) **ABSTRACT**

A method for patterning a layer on a substrate can include projecting coherent radiation toward a reflector surface so that the coherent radiation is reflected off the reflector surface to provide a holographic projection of a desired image wherein the reflector surface includes information that corresponds to an inverse of the holographic projection of the desired image. The substrate including the layer can be maintained in the path of the reflected radiation so that the holographic projection is projected onto the layer. Related systems are also discussed.

63 Claims, 11 Drawing Sheets

