Docket #: S11-473A

Printing Lens

Stanford researchers have developed a method for manufacturing a UV curable epoxy micro lens. Apertures of arbitrary size can be manufactured for micro lenses using this method. This micro lens is particularly useful in microscopes having a shorter optical path length over conventional optical microscopes.



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(12) United States Patent

Prakash et al.

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(54) OPTICAL LENS FABRICATION

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Subject to any disclaimer, the term of this patent is extended or adjusted under 35

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(Continued)

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(Continued)

(58) Field of Classification Search

CPC G02B 21/02; G02B 3/0087; G02B 5/005; G02B 21/0008; G02B 3/00; B29D

11/00432; B29D 11/00365

See application file for complete search history.

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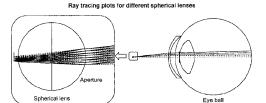
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57) ABSTRACT

Optical lenses and methods for manufacturing optical lenses are disclosed herein. Lenses having a reduced aperture size are also disclosed herein along with methods for making the same. The optical lenses disclosed herein can be made having improved optical properties. The lenses can be used in optical microscopes, including optical microscopes with a shorter optical path relative to conventional optical microscopes.

20 Claims, 17 Drawing Sheets



Comparison of the three different lenses



GRIN lens with quadratic profile is preferable for reducing the spherical aberration.

Patents

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