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(54) **IMAGING WITH EXTENDED DEPTH OF FOCUS FOR USE WITH POLYCROMATIC LIGHT**

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This patent is subject to a terminal disclaimer.

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See application file for complete search history.

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(57) **ABSTRACT**

An imaging lens unit is presented, comprising an imaging lens having a lens region defining an effective aperture, and a phase coder. The phase coder may be incorporated with or located close to the lens region. The phase coder defines a surface relief along the lens region formed by at least three phase patterns extending along the lens region. Each of the phase patterns differently affecting light components of one of at least three different wavelength ranges while substantially not affecting propagation of light components of other of said at least three wavelength ranges. The surface relief affects light propagation through the lens region to extend a depth of focus for at least one of said at least three wavelength ranges.

**19 Claims, 2 Drawing Sheets**