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(54) **METHOD FOR OPTIMIZING QWIP GRATING DEPTH**

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(58) **Field of Search** 257/441, 14, 21

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(57) **ABSTRACT**

A method for optimizing the depth of the grating of a QWIP with respect to light of a particular frequency, and the QWIP so designed. A scalar expression for the intensity of light scattered from the grating is multiplied by an absorption factor for forward and backward propagation through the QWIP and integrated over all scattering angles. Quantum efficiency is maximized when the depth of the grating is in a range slightly higher than an odd multiple of one-quarter of the wavelength of the light inside the QWIP.

9 Claims, 4 Drawing Sheets