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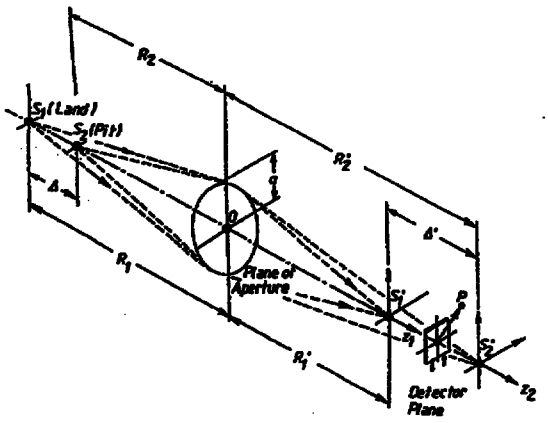
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(54) Title: INTERFERENCE OF CONVERGING SPHERICAL WAVES WITH APPLICATION TO THE DESIGN OF LIGHT-READABLE INFORMATION RECORDING MEDIA AND SYSTEMS FOR READING SUCH MEDIA



$$\frac{\lambda}{2n}\frac{m}{1+M_T^2} \quad \text{(I)} \qquad nd = \frac{\lambda}{2}\frac{m}{1+M_T^2} \quad \text{(II)}$$

(57) Abstract: An improved light-readable information recording medium is provided that comprises an optical data storage structure having lands and pits, in which the depth of the pits is about formula (I), wherein λ is the wavelength of light used to read the information recording medium, *m* is the order of interference selected from a group consisting of odd integers, M_T is the transverse magnification, and *n* is the refractive index encountered by the reading light inside the pits. The invention also provides an improved optical reading system with the parameters satisfying the relationship of formula (II), wherein λ is the wavelength of light to read the information recording medium, *m* is the order of interference selected from a group consisting of odd integers, M_T is the transverse magnification, *n* is the refractive index encountered by the reading light inside the pits, and *d* is the depth of the pits.

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