

An Informational Approach to the Sinusoidal Law of Photon Polarization

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Abstract: The photon polarization law $p_{\theta}=\sin^2\theta$ is derived from a simple informational consideration by two methods: The first is via an intuitive principle of minimum Fisher information, the second is via a symmetry and invariance argument. The results demonstrate that in photon polarization, Nature has a tendency to hide herself as deep as possible while obeying some regular conditions.

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Key words: photon polarization, Fisher information, Cramer-Rao bound, two-person game, binomial distribution

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