

Abstract Submitted
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Correlation Between Polarization-based Geometric Phase of Light and Geodesic Triangle on Bloch(Poincare) Sphere¹ CODY LEARY, RAISA TASNIM RAOFA, Department of Physics, The College of Wooster — We investigate how photons can remember their polarization states using a dual path Sagnac interferometer where a split beam of light is passed through a birefringent crystal to change the polarization along one axis, then recombine the beam and analyze the "memory" of this polarization shift. We then analyze how the change in polarization imparts an overall geometric phase on the system by observing the output intensity. We show how the phase is related to a geodesic triangle on a Bloch (Poincare) Sphere.

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