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The time-dependent non-Abelian Aharonov-Bohm effect MAX BRIGHT, DOUGLAS SINGLETON, California State University, Fresno — In this talk I discuss the time-dependent Aharonov-Bohm effect for non-Abelian gauge fields. We use the well known Coleman plane wave solutions to the time-dependent Yang-Mills field equations to investigate the non-Abelian Aharonov-Bohm phase shift. For this solution, we find a cancellation between the phase shift coming from the non-Abelian "magnetic" field and the phase shift coming from the non-Abelian "electric" field, which inevitably arises in time-dependent cases. We compare these results to the results for the Abelian time-dependent Aharonov-Bohm effect.

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