

Abstract Submitted  
for the APR07 Meeting of  
The American Physical Society

**Calculation of Berry Phases by Elementary Methods.** THOMAS WALNUT, Syracuse University — The Berry (geometrical) phases of two systems, an electron on a rotating circular track and an electron spin in a precessing magnetic field, are recalculated using an elementary method. The results are compared with previous advanced calculations. It is found that: (1) in principle, and frequently in practice, the elementary procedure gives the correct results; (2) the results are sensitive to the previous specification of the problem; (3) the elementary and advanced treatments show only partial agreement.

Thomas Walnut  
Syracuse University

Date submitted: 21 Dec 2006

Electronic form version 1.4