Roman V. Buniy\* (roman.buniy@gmail.com), Physics Department, Indiana University, Bloomington, IN 47405, and Thomas W. Kephart (tom.kephart@gmail.com), Box 1807 Sta. B, Department of Physics, Vanderbilt University, Nashville, TN 37235. Higher Order Topological Invariants from the Chern-Simons Action.

It is well known that for a field theory with the Chern-Simons action, expectation values of Wilson line operators are topological invariants. The standard result is expressed in terms of the Gaussian linkings of closed curves defining the operators. We show how judicious choice of Wilson lines leads to higher order topological linkings. (Received September 09, 2007)