1054-55-273 **Robin Koytcheff*** (`robink@math.stanford.edu`), Department of Mathematics, Bldg. 380, 450 Serra Mall, Stanford, CA 94305-2125. *A homotopy-theoretic view of Bott–Taubes integrals and knot spaces.*

Bott and Taubes found knot invariants by considering a bundle over the space of knots and integrating differential forms along its fiber. This integration was used to construct Vassiliev (finite-type) invariants and subsequently real cohomology classes in the space of knots in $\mathbb{R}^n$, $n > 3$. The Pontrjagin–Thom construction allows us to perform "integration along the fiber" without using differential forms and thus construct cohomology classes with arbitrary coefficients. Motivated by Budney and F. Cohen's calculation of the homology of the space of knots in terms of the homology of the space of prime knots, we prove a product formula for our classes with respect to connect-sum. (Received September 15, 2009)