Abstract

In 1956, Bott in his celebrated paper on closed geodesics and Sturm intersection theory, proved an Index Iteration Formula for closed geodesics on Riemannian manifolds. Motivated by the recent discoveries on the stability properties of symmetric periodic solutions of singular Lagrangian systems, we establish a Bott-type iteration formula for dihedrally equivariant Lagrangian and Hamiltonian systems. Our dynamical consequence is a hyperbolicity criterion for reversible Lagrangian systems.