

Title

Biot-Savart Operators and Linking Numbers on Rank-1-Symmetric Spaces

Abstract

In euclidean space the Biot-Savart formula giving the magnetic field of a stationary current also determines an integral formula for the linking number of two disjoint loops. We show how this carries over to more general rank-1-symmetric spaces: The Cartan equation (in differential forms) has a radial solution which gives a Gauss-type integral for the linking number of a pair of disjoint submanifolds of complementary dimension.