

SYMMETRY BREAKING OPERATORS FOR REDUCTIVE PAIRS

MICHAEL PEVZNER

Understanding of intertwining operators arising in branching laws of infinite-dimensional representations of reductive Lie groups is a subtle problem mixing Combinatorics, Geometry, complex and real Analysis. Sometimes it turn out that such “symmetry breaking operators” are realized by differential operators on appropriate functional spaces. A fundamental example of this phenomenon is given by the celebrated Rankin-Cohen brackets. We explain the algebraic and geometric nature of these operators and present a general method for their effective construction. We will illustrate these ideas with some concrete examples.