

"On symmetry breaking operators for branching rules of real reductive
Lie groups"

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Abstract: Sometimes the intertwining operators appearing in branching laws of infinite-dimensional representations of real reductive Lie groups turn out to be realized by differential operators.

An example of this phenomenon is given by the celebrated Rankin-Cohen brackets. We will explain the algebraic and geometric nature of these operators and present a general method for their effective construction. We will illustrate these ideas with concrete examples in six different complex parabolic geometries focusing on the fundamental role of the Gauss hypergeometric equation and will also outline some applications.