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D-module theory allows us to approach a number of problems in representation theory of real reductive groups using methods of algebraic geometry. For a long time, all attempts to study the classification of unitary representations in this framework failed. Recently, a new idea by Vogan and his collaborators to study hermitian forms invariant for a compact form, changed the situation. Such forms can be constructed geometrically, generalizing the obvious construction on global sections of line bundles given by integration. As pointed out by Schmid and Vilonen, these forms are related to polarizations in Saito's theory of Hodge modules.

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