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Raul Quiroga-Barranco* (quiroga@cimat.mx), Cimat, Av. Jalisco S/N, Mineral de Valenciana, 36000 Guanajuato, Guanajuato, Mexico. *Multiplicity-free restrictions of holomorphic discrete series and Toeplitz operators.*

Bounded symmetric domains provide many rich objects in analysis. We are mainly interested in their holomorphic discrete series, more specifically the branching properties of these representations. In particular, the theory of multiplicity-free restrictions allows us to have a better understanding of the holomorphic discrete series. In this area, the work of Kobayashi, Ólafsson and Ørsted has been of fundamental importance.

On the other hand, the Bergman space realizations of the holomorphic discrete series are also the base for the so called Toeplitz operator. These are defined as a multiplication operator by a measurable function followed by the Bergman projection. A fairly recent discovery is the existence of many rich *commutative* C^* -algebras generated by Toeplitz operators. From the very start this behavior was found to be related to group theory. More recently, it was proved to be closely related to corresponding multiplicity-free restrictions.

In this talk we will briefly explain this application of representation theory to operator theory. (Received September 16, 2016)