

1154-11-1956

Keerthi S Madapusi Pera* (madapusi@bc.edu), Maloney Hall, Dept of Mathematics, 140 Commonwealth Ave, Boston College, Chestnut Hill, MA 02467. *Modularity of generating series of cycles on orthogonal Shimura varieties*. Preliminary report.

Starting from the seminal work of Hirzebruch-Zagier and Gross-Kohnen-Zagier, it has been observed that special cycles formed by sub-Shimura varieties can sometimes be organized into generating series that turn out to be modular forms. This area now forms part of S. Kudla's wideranging program on special cycles on Shimura varieties of orthogonal type. At this point, the modularity is essentially known in the generic fiber due to work of Borcherds, Bruinier-Raum and others.

However, for applications to arithmetic intersections, it is important to also know this for the Arakelov version of this cycles, which, among other things, involves knowing something about the integral models of Shimura varieties, and the behavior of these cycles with respect to these models.

In this talk, we will present some recent results, joint with B. Howard, on the definition and modularity of these generating series on the integral models of Shimura varieties of orthogonal type (Received September 16, 2019)