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Intersection theory on the moduli space of abelian varieties.

We study the intersection numbers of divisors on toroidal compactifications of the moduli space A_g of principally polarized abelian varieties. It seems that most of these intersection numbers are zero, with only those essentially coming from top intersections on A_k for $k \leq g$ being non-zero. We discuss the approaches to and partial results in proving this, computing the non-zero numbers, and generalizing to other symmetric domains, via explicit geometry, intersection homology, etc. (Received January 28, 2008)