

Oberseminar Zahlentheorie und arithmetische Geometrie

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Vanishing and relations in the tautological ring of M_g , via the theta divisor

We consider various Abel-Jacobi maps from the moduli space of curves with marked points to the universal abelian variety, by taking weighted sums of points on the Jacobian. On the universal abelian variety it is known by applying Fourier-Mukai transform that the $(g+1)$ 'st power of the universal theta divisor, trivialized along the zero section, vanishes in the Chow ring. By pulling back this vanishing relation under all the Abel-Jacobi maps, we reprove in an elementary combinatorial way the vanishing part of Faber's conjecture on tautological rings of $M_{\{g,n\}}$. Furthermore, pulling back the expressions for the double ramification cycle, we provide an algorithm for explicitly expressing vanishing tautological classes as being supported on the boundary of the Deligne-Mumford compactification.

Based on joint work with E. Clader, F. Janda, D. Zakharov

Donnerstag, 15.06.2017, 12:00 – 13:00, a410

Alle Interessierten sind herzlich eingeladen.