

A Fourier-Mukai Approach to the Enumerative Geometry of Principally Polarized Abelian Surfaces

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We study twisted ideal sheaves of small length on an irreducible principally polarized abelian surface (T,I). Using Fourier-Mukai techniques we associate certain jumping schemes to such sheaves and completely classify such loci. We give examples of applications to the enumerative geometry of T and show that no smooth genus 5 curve on such a surface can contain a g^1_3 . We also describe explicitly the singular divisors in the linear system |2|.

Comments: 21 pages with appendix, typos fixed

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