

GENERIC STRANGE DUALITY AND LOCAL FREENESS OF THE VERLINDE SHEAVES OVER ABELIAN SURFACES

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ABSTRACT. With the purpose of examining some relevant geometric properties of the moduli space of sheaves over an algebraic surface, Le Potier conjectured some unexpected duality between the complete linear series of certain natural divisors, called Theta divisors, on the moduli space. Such conjecture is widely known as Strange Duality conjecture. After the results of Marian and Oprea, who proved generic Strange Duality on K3 surfaces, we will work in the setting of abelian surfaces: first, we will give generalities about the moduli space of sheaves over an abelian surface; second, we will motivate the study of Theta divisor and of their relative versions, called Verlinde sheaves. We will state generic Strange Duality in this setting and, time permitting, we will sketch the proof of the global local freeness of the Verlinde sheaves, which will be relevant for further studies.