Autoduality and Fourier-Mukai for compactified Jacobians

Margarida Melo
CMUC/Universidade de Coimbra
e-mail: mmelo@mat.uc.pt

Resumo:

Among Abelian varieties, Jacobians of smooth curves C have the important property of being autodual, i.e., they are canonically isomorphic to their dual abelian variety. This is equivalent to the existence of a Poincaré line bundle P on $J(C) \times J(C)$ which is universal as a family of algebraically trivial line bundles on $J(C)$. Another instance of this fact was discovered by S. Mukai who proved that the Fourier-Mukai transform with kernel P is an auto-equivalence of the bounded derived category of $J(C)$. I will talk on joint works with Filippo Viviani and Antonio Rapagnetta, where we try to generalize both the autoduality result and Mukai's equivalence result for singular reducible curves with locally planar singularities. Our results generalize previous results of Arinkin, Esteves, Gagné and Kleiman and can be seen as an instance of the geometric Langlands duality for the Hitchin fibration.

palavras-chave: Fourier-Mukai transforms; Compactified Jacobians; Geometric Langlands Duality.

Referências

[1] Margarida Melo, Antonio Rapagnetta, Filippo Viviani "Fine compactified Jacobians of reduced curves", preprint arXiv:1406.2299.

[2] Margarida Melo, Antonio Rapagnetta, Filippo Viviani "Fourier-Mukai and autoduality for compactified Jacobians. I", preprint arXiv:1207.7233 .

[3] Margarida Melo, Antonio Rapagnetta, Filippo Viviani "Fourier-Mukai and autoduality for compactified Jacobians. II", preprint arXiv:1308.0564 .