



复旦大学数学科学学院 数学综合报告会

报告题目: **On smooth projective curves with given Hodge type**

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15:30-16:30

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摘要: I shall report my recent joint work with Ke Chen, Xin Lu and Sheng-Li Tan. Motivated by Coleman conjecture on finiteness of CM jacobians of smooth curves of genus $g > 7$ and Ekedahl-Serre conjecture on finiteness of completely decomposable jacobians of smooth curves of higher genus we introduce the notion of curves with given Hodge type by Mumford Tate group. We try to classify the possible Hodge types of smooth projective curves. As the first step: by applying Xiao Gang's inequality we show that there exists at most finitely many curves with some Hodge types. Equivalently, any special sub variety with those type Mumford-Tate group intersects Torelli locus of curves in at most finitely many points. Note that this statement is stronger than Oort conjecture for those type special sub varieties.

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