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Seminar

Bessel F - Isocrystals for reductive groups

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Abstract

I will first review the Frobenius structure on the classical Bessel differential equation

$$\left(x \frac{d}{dx}\right)^2 u - xu = 0,$$

whose Frobenius traces are classical Kloosterman sums

$$\text{Kl}(a) := \sum_{xy=a \in \mathbb{F}_p} \exp\left(\frac{2\pi i}{p}(x+y)\right).$$

Recently, there are two generalizations of this story (corresponding to GL_2 -case) for reductive groups: one is due to Frenkel and Gross from the viewpoint of the Bessel connection; another one, due to Heinloth, Ngô and Yun, uses the geometric Langlands correspondence to produce ℓ -adic sheaves. I will report my joint work with Xinwen Zhu, where we study the p -adic aspect of this theory and unify previous two constructions.

Date: 4 September 2019 (Wednesday)
Time: 2:30pm – 3:30pm
Venue: Room 219, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin

All are Welcome