Séminaire des doctorants en Théorie des Nombres "Jouve-Pazuki"

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The automorphic L-functions of prime power level.

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Automorphic L-functions play an important role in analytic number theory. Traditionally, one studies L-functions of prime power or square-free level. Recently, D. Rouymi changed this tradition by considering prime power level. He computed the asymptotics of the first three power moments and proved that there is a positive proportion of non-vanishing L-functions at the critical point. In this talk, we give an asymptotic formula for the fourth power mean of automorphic Lfunctions of prime-power level and discuss some possible applications.