

2015학년도 1학기

# 수학전공 Colloquium

제 목 Artin map, Farey map and geodesic flow on modular ray in positive characteristic

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초

록

The relation between the continued fraction expansion and the geodesic flow on the modular surface  $H^2/SL_2(\mathbb{Z})$  has been well studied. A. Broise-Alamichel and F. Paulin studied the relation between continued fraction expansion for functions in the function field and geodesic flow in trees, extending Artin's work to function fields. Paulin defined the Artin map as the first return map of the geodesic flow on a tree tessellated with Ford disks, which is analogous to the Gauss map which is the first return map of the geodesic flow on the hyperbolic plane equipped with the dual of the Farey tessellation. Based on Broise-Alamichel and Paulin's work on the Gauss map corresponding to the principal convergents via the symbolic coding of the geodesic flow of the continued fraction algorithm for formal power series with coefficients in a finite field, we continue the study of the Gauss map via Farey maps to contain all the intermediate convergents. (This talk is based on joint work with Seonhee Lim, Hitoshi Nakada and Rie Natsui.)

일 시 4월 9일 목요일 오후 5시

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