THE DIRICHLET SERIES OF A PROFINITE GROUP

DUNG HOANG DUONG

Abstract

Given a finitely generated profinite group $G$, one may associated to $G$ a Dirichlet series $P_G(s)$ interpolating the probability that a random $s$-tuple generates the group $G$ topologically. The reciprocal of $P_G(s)$ is usually called the Probabilistic Zeta Function of the group $G$. In this talk, I will first present a brief survey of the subject, then I will present some results concerning the finiteness of the group $G$ from the rationality of $P_G(s)$. I will then end up with some open problems.

E-mail address: dhdung1309@gmail.com

Mathematisch Instituut, Leiden Universiteit, Niels Bohrweg 1, 2333 CA Leiden, The Netherlands

Current address: Dipartimento di Matematica, Università degli Studi di Padova, Via Trieste 63, 35121 Padova, Italy.