

**CHARACTERS AND HARMONIC FUNCTIONS
RELATED TO
INFINITE WREATH PRODUCT GROUPS**

AKIHITO HORA

Let $G = \mathfrak{S}_\infty(T)$ be the infinite wreath product of compact group T . This includes the infinite symmetric group \mathfrak{S}_∞ itself and an infinite complex reflection group with trivial and cyclic groups T respectively though T is not necessarily commutative in general. Since G is an inductive limit of compact group $G_n = \mathfrak{S}_n(T)$, the branching graph \mathbb{G} is regarded as a certain dual object of G . I will talk about an interplay between unitary representations of G and some functions on G and \mathbb{G} by way of probabilistic or ergodic approach. Explicit expressions are given for characters of G , kernel functions on \mathbb{G} , Martin boundary of \mathbb{G} , and integral representations of harmonic functions on \mathbb{G} or equivalently factor decompositions of finite unitary representations of G . The talk is based on joint works with T. Hiraï and E. Hiraï.

GRADUATE SCHOOL OF MATHEMATICS, NAGOYA UNIVERSITY, NAGOYA 464-8602, JAPAN