

A GENERALIZATION TO THE CARRY PROCESS

FUMIHIKO NAKANO (GAKUSHUIN UNIVERSITY)

ABSTRACT. This is the joint work with Taizo Sadahiro (Tsuda College). We study the carry process which is different from the usual one in the sense that

- (i) various digit sets are considered, and/or
- (ii) the base is a negative integer.

The result is :

- (1) the transition probability keeps some of the beautiful structure of the “amazing matrix”, which is found by Holte(1997),
- (2) “generalized” Eulerian and MacMahon numbers appear in the stationary distributions,
- (3) these numbers are related to the distribution of sum of the uniformly distributed i.i.d.r.v's on $[0, 1]$,
- (4) it is possible to have connection with the riffle shuffle in some special cases.