Channel Estimation with Systematic Polar Codes
ABSTRACT

• In this paper, to improve the performance of polar codes in the finite domain, pilot symbols are selected from the coded symbols themselves.

• In order to keep the existing efficient structure of polar code encoding, pilot selection is critical since not all selections can reuse the existing structure.

• In this paper, two pilot selections denoted as Uneven Pilot Selection and Even Pilot Selection are proposed, which do not change the efficient polar encoding structure.
EXISTING SYSTEM

• Study of polar codes in fading channels is of great importance when applying polar codes in wireless communications.

• Channel estimation is a fundamental step for communication to be possible in fading channels.

• For both systematic and non-systematic polar codes, construction of them is based on an information set and the known frozen bits.

• Efficient implementation of systematic and non-systematic polar codes exists.
In this paper, two pilot selection schemes, uneven pilot selection and even pilot selection are studied for polar codes in fading channels. By selecting coded symbols as pilots, instead of inserting pilots, the decoding performance of polar codes is greatly improved. Considering the unsatisfactory performance of polar codes in the finite domain, the proposed pilot selection scheme EPS can be employed in practical systems for channel estimation or tracking.
HARDWARE REQUIREMENTS

- Processor - Intel core i3
- RAM - 2B
- Hard Disk - 20 GB
SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End : OTCL (Object Oriented Tool Command Language)
REFERENCE


