

IMPROVED METHOD FOR CHANNEL ESTIMATION IN MIMO OFDM

Jumana Nasir. V P¹, N. Arun Prasath², Dr. S. Muthuvijayapandian³ & Dr. N. Kaleeswari⁴

¹PG Student, EASA College of Engineering and Technology, Coimbatore, Tamilnadu, India

²Senior Assistant Professor, Department of ECE, EASA College of Engineering and Technology, Coimbatore, Tamilnadu, India

³Professor, Department of EEE, VSB College of Engineering Technical Campus, Coimbatore, Tamilnadu, India

⁴Assistant Professor, Department of ECE, EASA College of Engineering and Technology, Coimbatore, Tamilnadu, India

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ABSTRACT

Due to its outstanding advantages in spectral efficiency and energy efficiency, multiple-input and multiple-output (MIMO), which employs a large number of antennas at the base station (BS) to simultaneously serve many user terminals (UTs), is one of the critical technologies in fifth-generation (5G) and future wireless communication systems. With the rise of wireless communication technologies, emphasis on increased data rates, system capacity, and service quality has piqued attention. To address these difficulties, proper channel modelling and precise assessment of channel state information are critical for the communication system's design. This paper proposes an improved channel estimation approach. Singular value decomposition is employed for precoding, followed by the VAMP approach for channel estimation.

KEYWORDS: *Massive MIMO-OFDM, Channel Estimation, Message Passing*