

Abstract: Compressed Sensing Based Multi-layer Data Communication in Smart Grid System

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Abstract

Compressed sensing is a novel technology in the field of wireless communication and sensor networks for channel estimation, signal detection, data gathering, network monitoring and so on. In this paper, we present a multi-layer communication structure model for Smart Grid (SG) systems and the compressed sensing based data transmission is proposed at every layer of the SG system to enlighten the performance of data transmission. Our focus is to utilize the compressed sensing procedure at every layer in controlled manner. Through the simulation results it is shown that the monitoring devices require less transmission power than conventional system for data transmission.

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