Performance Evaluation of Linear Beamforming Receiver for Large CoMP Sparse Massive MIMO Channel Matrices

Abstract:
A massive multiple-input, multiple-output (mMIMO) downlink is considered with fixed wideband beams known as Grid of Beams (GoBs). The radio channel of a typical urban macro scenario will be shown to be sparse, and in combination with a linear maximum ratio combining beamforming method is used at the user equipment. Simulation results for urban macro cells show that reasonable spectral efficiencies are achieved with a moderate number of relevant channel components (RCCs) and accordingly limited feedback overhead for reporting of channel state information (CSI).