

Abstract

In this paper we consider the uplink of Base Station (BS cooperation) systems, where each Mobile Terminal (MT) employs a Single-Carrier with Frequency-Domain Equalization (SC-FDE) modulation scheme. The combined signals at each BS are detected and/or separated by a Central Processing Unit (CPU) with Iterative Block Decision Feedback Equalization (IBDFE) receivers. We consider a Radio-over-Fiber (RoF) link between the BS and the CPU, the electrical and optical conversions are performed by a Mach-Zehnder (MZ) modulator, which introduces nonlinear distortion. We design robust receivers that take advantage of the statistical characteristics of the nonlinear distortion