Abstract

Radio-over-Fiber (RoF) technology is an integration of microwave and optical networks. It has emerged as a potential solution for increasing capacity and mobility as well as decreasing costs in the broadband access network. The concept of RoF means to transport information over optical fiber by modulating light with radio frequency signal (RF) or at the intermediate frequency (IF) to take advantage of the low loss characteristic of an optical fiber. RoF system is very cost effective because the localization of signal processing takes place in central station where electrical to optical conversion, advanced modulation formats and multiplexing techniques are used, whereas a simple base station where only optical to electrical conversion
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takes place and the electrical signal is transmitted wirelessly through remote antenna units (RAUs). It acts as a back-end technology to the wireless network access system where there is a need for high data rate along with mobility is increasing day by day.

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Index Terms

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