Abstract

In this paper an image transmission system has been proposed where Joint Photographic Experts Group (JPEG) algorithm is used as an image coder and Rate Compatible Punctured Convolution (RCPC) channel coder is used for transmission of coded image over wireless channels (AWGN and Rayleigh fading). JPEG bit stream is partitioned into DC and AC bit streams. AC bit stream further classified using edge density property of block. Priorities based Unequal error Protection (UEP) applied to bit stream. Distortion analysis (MSE) is given for proposed image transmission scheme. The simulation results shows reduction in distortion compared to conventional Equal Error Protection (EEP). This proposed algorithm can be applied for low frequency as well as high frequency images.

References

- J. Hagenauer, "Rate compatible punctured convolutional codes (RCPC) and their application"; IEEE trans. on communication vol. 36 no 4, pp. 389-400, April 1988.

**Index Terms**

Computer Science  
Wireless Communications

**Keywords**

Joint Photographic Experts Group (JPEG)  
Rate Compatible Punctured Convolutional (RCPC)  
Rate Compatible Punctured Convolutional (RCPC)  
Mean Square Error (MSE)  
Equal Error Protection (EEP)  
Unequal Error Protection (UEP)