



# **A New Approach for Detecting Memory Errors in JPEG2000 Standard**

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***Abstract***—The rapid growth of image compression has dramatically increased to reduce memory size without degrading the quality of the image. This paper provides adaptive memory compensation errors in JPEG2000. Furthermore, we use algorithm-specific techniques such as DWT to compensate memory consumption and propose Huffman coding, MQ-Coding for compensating the memory errors without the need of tile memory. The Huffman coder can be used to compress and store large amount of data in a memory. These techniques do not require any additional memory can minimize the memory requirements having the less computation complexity with larger area and power consumption. The proposed architecture is used to increase the image quality as well as the compression rates. By this method, memory compensation and memory errors can be reduced. The image quality can also be increased with the help of Discrete Wavelet Transform.

***Index Terms***—JPEG; JPEG2000; MQ-CODER; SRAM errors; adaptive error control coding

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