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Abstract
In the last decade, discrete wavelet transform (DWT) has proven to be a useful technique for a wide rage of application including signals analysis, signal compression, pattern recognition, biomedicine, and numerical analysis. Since DWT has excellent features of energy compaction and inherent scalability, it has been applied extensively in the field of image and video compression. The traditional DWT needs extensive computation complexity. In 1996, Lifting-Based Discrete Wavelet Transform (LDWT), is proposed. With some advantages, such as lower implementation complexity and easy VLSI implementation, LDWT has received considerable attention recently and been adopted in some image compression standards.
The memory will be increased, when we process large images in DWT. In order to reduce the required memory, a new method will be discussed in this paper. Before image doing DWT process, we have to cut the image into n blocks. Then we accord the block's sequence to do DWT. Because the new image size after cutting is only 1/N of the original. Therefore our necessary memory of DWT is reduced. On the side, an architecture will purposed to process the boundary effect problem in this paper.
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