



## A PRACTICAL SOLUTION TO TRANSFORM-DOMAIN ROUNDING (WedAmOR3)

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### ★ Abstract :

In many multimedia applications, manipulation of video signals is preferably performed in the transform domain. Most of such operations are derived from their counterparts in the pixel domain. However, the rounding operation can not be obtained this way because it is a nonlinear operation. Without a proper treatment, it may become a major source of errors for multimedia systems, causing a mismatch between the encoder and the decoder. This problem seems to have been largely ignored. In this paper, we propose a practical solution to this problem by a thorough examination of the mathematical property of the rounding error in the context of transform-domain video transcoding and demonstrate its performance.