PERFECT RECONSTRUCTION IN REDUCED REDUNDANCY
WAVELET–BASED MULTIPLE DESCRIPTION CODING OF IMAGES
(WedAmOR3)

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Abstract:
In this paper we consider frame expansions derived from biorthogonal wavelet bases for building multiple
descriptions with low redundancy constraints. Such constraints rise the problem of perfect reconstruction of
the associated decompositions in the absence of quantization or channel errors, which requires special
attention and therefore will be detailed in this work. We will show that several schemes that yield perfect
reconstruction are possible with the proposed strategy. Moreover, when the resulting coefficients are
corrupted by quantization or channel errors, we employ a fast iterative algorithm based on projections onto
convex sets in order to enhance the quality of the decoded images.