H.264 ERROR RESILIANCE CODING BASED ON MULTI−HYPOTHESIS MOTION COMPENSATED PREDICTION (WedPmOR3)

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Abstract: In this paper, we propose efficient schemes for enhancing the error robustness of multi−hypothesis motion−compensate predictive (MHMCP) coder without sacrificing the coding efficiency significantly. The proposed schemes utilize the concept of reference picture interleaving and data partitioning to make the MHMCP−coded video more resilient to channel errors, especially for burst channel error. Besides, we also propose a scheme of integrating adaptive intra−refresh into the proposed MHMCP coder to further improve the error recovery speed. Extensive simulation results show that the proposed methods can effectively and quickly mitigate the error propagation and the penalty on coding efficiency for clean channels due to the inserted error resilience features is rather minor.