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SPARSE SIGNAL RECONSTRUCTION USING REFINED INSTANTANEOUS FREQUENCY ESTIMATION

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Abstract:
This study proposes an instantaneous frequency (IF) estimation and then applies this algorithm to reconstruct missing samples. The proposed IF estimation and sparse reconstruction algorithm is developed by adding a refinement step where the crude estimates of IFs and signal components are further improved through the re-estimation stage. During the re-estimation stage, both IFs and the signal components are re-estimated by removing all the remaining components. Experimental results indicate that the proposed strategy improves the accuracy of IF estimates and the reconstruction process of signals with missing samples.

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