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WEIGHTED AVERAGE INSTANTANEOUS FREQUENCY BASED ON (WedPmPO3)

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Abstract : It is often claimed that instantaneous frequency, taken as the derivative of the phase of the signal, is appropriate or meaningful only for mono–component signals, and that for multi–component signals a weighted average of individual instantaneous frequencies should be used. In this paper, we show if a signal is decomposed adaptively and we compute the matching pursuit distribution, then the first conditional spectral moment is exactly the weighted average instantaneous frequency. Two different signals will be analyzed and the above result will be illustrated in practice.

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