Efficient time-frequency representations of nonstationary signals for instantaneous frequencies estimation

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Instantaneous frequency (IF) estimation of non-stationary signals is required in many applications, such as radar and micro doppler systems, seismology, audio and speech processing, biology, biomedicine, air traffic control. To this aim sparse time-frequency representations that can deal with signals having non-separable components are necessary [1, 2, 5, 6].
In this talk, some recent results concerning the retrieval of good grid points for IF estimation are presented [3, 4]. They take advantage of a signal spectrogram time-frequency evolution law and reassignment procedures. Open issues are also discussed.

References

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