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Instantaneous Frequency Estimation Based on Synchrosqueezing Wavelet Transform

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Highlights

- The instantaneous frequency-embedded continuous wavelet transform (IFE-CWT) is introduced and its properties are studied.
- Based on IFE-CWT, the instantaneous frequency-embedded synchrosqueezing transform (IFE-SST) is introduced.
- IFE-SST can preserve the IF of a monocomponent signal. To estimate IF of a component of a multicomponent signal, IFE-SST uses a reference IF function associated with that component.
- The IFE-SST-based multicomponent signal separation algorithm is proposed. The experimental results also show that IFE-SST works well in the noise environment.

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