

Author Response to Reviewer-ABCD of Paper-5736:

Adaptive Variational Nonlinear Chirp Mode Decomposition

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RC: Reviewer Comment, AR: Author Response, □: Manuscript Text

1. Experimental Validation

RC: Perhaps an enlargement of the relevant parts of the graph would be useful.

AR: Ok, I changed this. Please see Fig.1 for details.

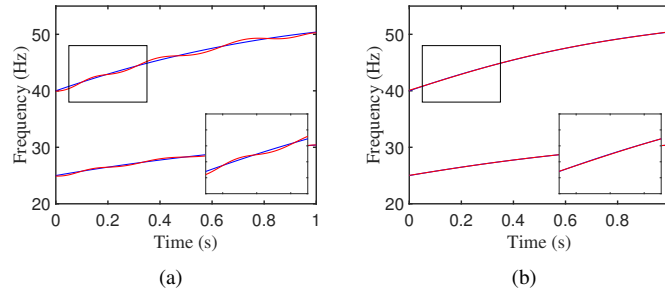


Figure 1: The estimated IFs by different algorithms (blue: true; red: estimated): (a) VNCMD, (b) AVNCMD.

2. Technical Correctness

RC: There are some minor errors: in Equation (1), notation u_i^{k+1} is from [1] and does not follow the paper's adopted notation.

AR: Ok, I corrected this:

The arctangent demodulation technique may be introduced to update the IF increment, i.e.,

$$\Delta f_k^{(i)}(t) = \frac{v_k^{(i)}(t) \cdot \left(u_k^{(i)}(t)\right)' - \underline{u_i^{k+1}(t)} \underline{u_k^{(i)}(t)} \cdot \left(v_k^{(i)}(t)\right)'}{2\pi \left[\left(u_k^{(i)}(t)\right)^2 + \left(v_k^{(i)}(t)\right)^2 \right]}. \quad (1)$$

Great, you're so careful.

Any more questions?

References

- [1] Shiqian Chen, Xingjian Dong, Zhike Peng, Wenming Zhang, and Guang Meng. Nonlinear chirp mode decomposition: A variational method. *IEEE Transactions on Signal Processing*, 2017.