**Paper:Sensors-90063-2025 Analysis and Experimental Validation of SSTDR for Simultaneous Distributed Diagnosis of Wire Networks**  
Reviewer: #1  
**I really appreciate the time and effort you put into addressing all the questions raised by the reviewers. I believe colleagues working in the field could benefit from learning about this new ZCZ technique.**

**However, although you mentioned that the typos I pointed out had been corrected, all of them are still present (labeled eqs 3, 7 and 14 in the previous version and 3, 6 and 12 in the current version). More concerningly, some equation numbers are now out of sync with their references in the text, and some equations even share the same number.**  
Reviewer #2  
  
1- the writing should be improved, figures are in low quality.

>> Mouad, I don’t see any figures that are too low resolution, but that might have happened if we did the cut/paste thing? I don’t see what to change … do you?

2- How the wire electrical parameters can affect your method? with technology size can your method be affected?

>> Thank you for your question. We have added the following to the conclusion:

For larger systems, or those with many resonances or multiple reflections, a longer may be needed. In that case, longer sequences (larger N) should be used, or fewer sequences (smaller M) will be available. The , which can be impacted by wire and system parameters, also impacts these results, In the case of a wired network, this is relatively minimal, because the vast majority of wires have a that is approximately (within 10%) of 2/3 the speed of light. Other systems, such as those with biological materials/tissues involved, may have larger variation in and, hence, more impact. Attenuation doesn’t impact these results with respect to the ZCZ codes, but it does reduce the magnitude of responses from later time/distance, so impacts the overall sensitivity at later time.

3- Please compare your method with 2025 refrences?  
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I’ve been looking through references … if you look at google scholar “distributed reflectometry” there is a LOT in optical (and some theory there that might be of interest to us in the future)… but by distributed they mean along the length of a single fiber, not like multiple sensors. So those don’t apply here.

Here are some 2025 papers on algorithms for assessing the network (could be used with any type of reflectometry) [1], [2], [3], [4]

This is interesting too [5]

References

[1] Q. Huang, Z. Li, Z. Fu, Y. Hu, Q. Fang, and Y. Wei, “Complex Wired Network Fault Diagnosis Based on Distributed Reflectometry and Multi-Channel 1D-CNN,” *IEEE Sensors Journal*, vol. 25, no. 11, pp. 19415–19427, Jun. 2025, doi: 10.1109/JSEN.2025.3559086.

[2] A. Goudjil and M. K. Smail, “Wiring Network Diagnosis Using Reflectometry and Twin Support Vector Machines,” *Sustainability*, vol. 17, no. 5, Art. no. 5, Jan. 2025, doi: 10.3390/su17051836.

[3] Z. Lacheheb *et al.*, “Topology reconstruction of wiring networks using an iterative process based on Time-Domain Reflectometry and Forensic-Based Investigation algorithm,” *Nondestructive Testing and Evaluation*, pp. 1–33, 2025.

[4] C. Chen, Q. Guan, Q. Guan, X. Jin, and Z. Shi, “Soft Fault Location and Imaging Using Residual Voltage Inversion in Cable Networks,” *IEEE Transactions on Instrumentation and Measurement*, vol. 74, pp. 1–16, 2025, doi: 10.1109/TIM.2025.3542111.

[5] D. Liang *et al.*, “Advanced Sensing Techniques for Cable Fault Detection Enhanced by Power-Line Communications and Integrated Feature-Image Analysis with Residual Neural Networks,” *IEEE Sensors Journal*, 2025.