Review of: "The Comparison of Traverses Adjusted by Non-Rigorous and Rigorous Methods of Adjustment"

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Potential competing interests: No potential competing interests to declare.

Review

I. **Brief summary**

The traverse is one of the most commonly used constructions of geodetic networks. There are a few methods for traverse adjustment. Although the rigorous method based on the least squares adjustment is most popular nowadays, there are still situations where the non-rigorous methods are used.

The article is devoted to the comparison of two non-rigorous methods using the rigorous method as a reference. The research was conducted on the real example set out in the area of the Federal University of Technology Owerri. The comparison showed the superiority of the Transit method.

II. **Comments to the text**

The article can be useful for the surveyors but it must be improved in some points. Below is a detailed list of my comments.

1. Materials and Methods section, page 3, line 9 from the bottom: It would be helpful for the reader to give precision of the total station.

2. Materials and Methods section, page 3, line 6 from the bottom: The work of R. E. Moore is not listed in the references.

3. Materials and Methods section, page 4, line 5 from the top: A traverse sketch is necessary.

4. Results section, page 4, lines 1 nad 2 from the bottom: What is the coordinate system? Is there a need to reduce the measured distances?

5. What standard deviations for angles and distances were taken to the least squares adjustment?

6. Table 4: What do SX and SY mean?

7. Table 5: How was the standard deviation of the distances obtained? The value of 0.1mm is absolutely unreliable.

8. It is commonly accepted that references should be referred to in the main text. The references from the list are not mentioned.

9. Author should take into account that the final conclusion is driven on the basis of only one example and we can not exclude that another traverse of different shape, measured with different accuracy can lead to different conclusions. I recommend the author continuation of his research, for example by conducting a series of tests on simulated data. In such a case we are able to use the true values as a reference instead of the rigorous adjustment results.

III. **Conclusion**

Te article needs a major revision.