

Algorithms for Wireless Sensor Networks

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Presented paper:

[Li05] Zang Li, Wade Trappe, Yanyong Zhang, Badri Nath, [Robust statistical methods for securing wireless localization in sensor networks](#), IPSN'05

This paper presents a statistical strategy for securing wireless location in sensor networks.

The paper is well-structured, with relevant graphical results. Based on the previous research in the area, the paper makes a classification (taxonomy) of attacks, and tries to provide a statistical solution to these attacks. The paper adopts the approach of minimizing the effect of the attack, rather than eliminating every possible attack. The LMS method is proposed, which uses lower computational costs in comparison with a previous, related method (LS). The reduction in computational demands suggests that this method can be better integrated in sensor networks.

Still, the paper doesn't study the effect over the whole system when the method is applied, and doesn't approach issues like overall computational complexity, energy consumption, feasibility, time for algorithm completion. Moreover, it doesn't study a broader range of undesired interferences, such as arbitrary interferences with the signal information (weather conditions, etc.), accidental or malicious movement of sensors in places out of the scope of the application.

In addition, the paper is not very original, because it adapts a method (LMS) which has already been applied in different areas (security, etc.) (see references).

In order to strengthen the paper, the authors should also provide comparison with other methods used to secure the localization process in sensor networks. Also, they could include results showing how well the *global* localization algorithm (more nodes, not only one, need to determine their position) performs, and measurements indicating overall energy consumption, computation, time costs, etc.

Instead of simulation, the employment of a real situation would be more powerful and suggestive.

