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A Comparative Analysis for WSNs Clustering Algorithms (Conference Paper)

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Abstract

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Wireless Sensor Networks (WSNs) are gaining significant research momentum due to their potential in providing a scalable, reliable, affordable, secure, and energy efficient infrastructure to several Internet of Things applications and scenarios. To achieve that, several clustering protocols have been proposed and widely used in the research community, among which are: The Low-Energy Adaptive Clustering Hierarchy protocol (LEACH) and Threshold sensitive Energy Efficient sensor Network (TEEN) for clustered homogeneous wireless sensor networks. The Stable Election Protocol (SEP), and Threshold Sensitive stable Election Protocol (TSEP) for clustered heterogeneous wireless sensor networks. The purpose of this paper is to provide a comparative analysis of these protocols, starting on a brief discussion on their operation, mentioning their strength and weakness aspects, and comparing between them thus highlighting their pros and cons, which will be a rich source for researchers who are keen toward developing new algorithms and protocols that leverage the pros of these protocols and minimize their cons. © 2020 IEEE.

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Topic: Routing Protocols | Network Lifetime | Wireless Sensor Networks

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Engineering controlled terms:

- Clustering algorithms
- Edge computing
- Energy efficiency
- Internet protocols
- Low power electronics

Engineering uncontrolled terms

- Algorithms and protocols
- Comparative analysis
- Energy-efficient sensor networks
- Heterogeneous wireless sensor networks
- Low energy adaptive clustering hierarchy protocols
- Research communities
- Stable election protocols
- Wireless sensor network (WSNs)

Engineering main heading:

- Wireless sensor networks

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