



Spatiotemporal Visual Analysis of Sensor Networks in the Wild

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Research Challenge:

- ◆ Diagnose and manage large-scale sensor networks is hard.
 - Resource/bandwidth constraints
 - Hostile environment
 - Highly dynamic network behaviours
- ◆ Statistical and modelling fall short.

Solution:

- ◆ Tool to visualize and interactively explore the spatiotemporal dynamics of WSN.
- ◆ Bring human domain knowledge.
- ◆ Not just detect anomalies, but causes.



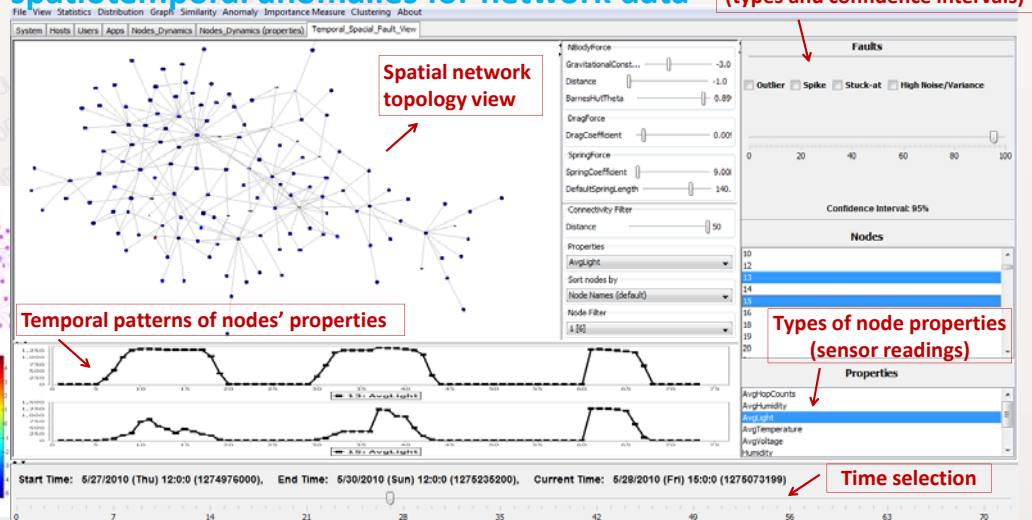
Dataset (GreenOrbs Project)

- ◆ Network data: routing, link state, diagnosing counters
- ◆ Sensor data: temperature, humidity, light, voltage

Related Work:

- ◆ Graph Properties
- ◆ Isomorphism, Subgraphs
 - Graphlets, motifs
- ◆ Graph Edit Distance
- ◆ GrowthRingMaps

Visualization tool for analyzing spatiotemporal anomalies for network data



2nd-order differential visualization using topology-aware contour maps

