

Peer Review

Review of: "Picture Fuzzy, Hesitant Fuzzy, and Spherical Fuzzy SuperHyperGraph"

Said Broumi¹

1. University of Hassan II Casablanca, Casablanca, Morocco

-Hypergraphs broaden the standard graph model by allowing each hyperedge to connect multiple vertices. Superhypergraphs extend this idea further, applying successive powerset operations to capture nested, hierarchical links among edges.

-The unified framework introduced here subsumes a variety of existing models and lays the groundwork for novel developments in network analysis and decision-making.

Potential applications

- Graph algorithms that must handle multi-level, uncertain links (e.g., hierarchical pathfinding, clustering).
- Decision-making models (fuzzy AHP, TOPSIS) where criteria form nested, partially known structures.
- Complex or urban networks—transport, utilities, smart-city layers—whose data are incomplete or conflicting.

What to clarify or extend

- A worked case study on a hierarchical urban network.
- Basic algorithms (reachability, flow, ranking) adapted to the new model.
- Simple rules for setting membership / non-membership degrees from real data.

-This research has the potential to attract significant attention in the future.

Declarations

Potential competing interests: No potential competing interests to declare.