



Construction of a three-layer directed network model with multimodal characteristics

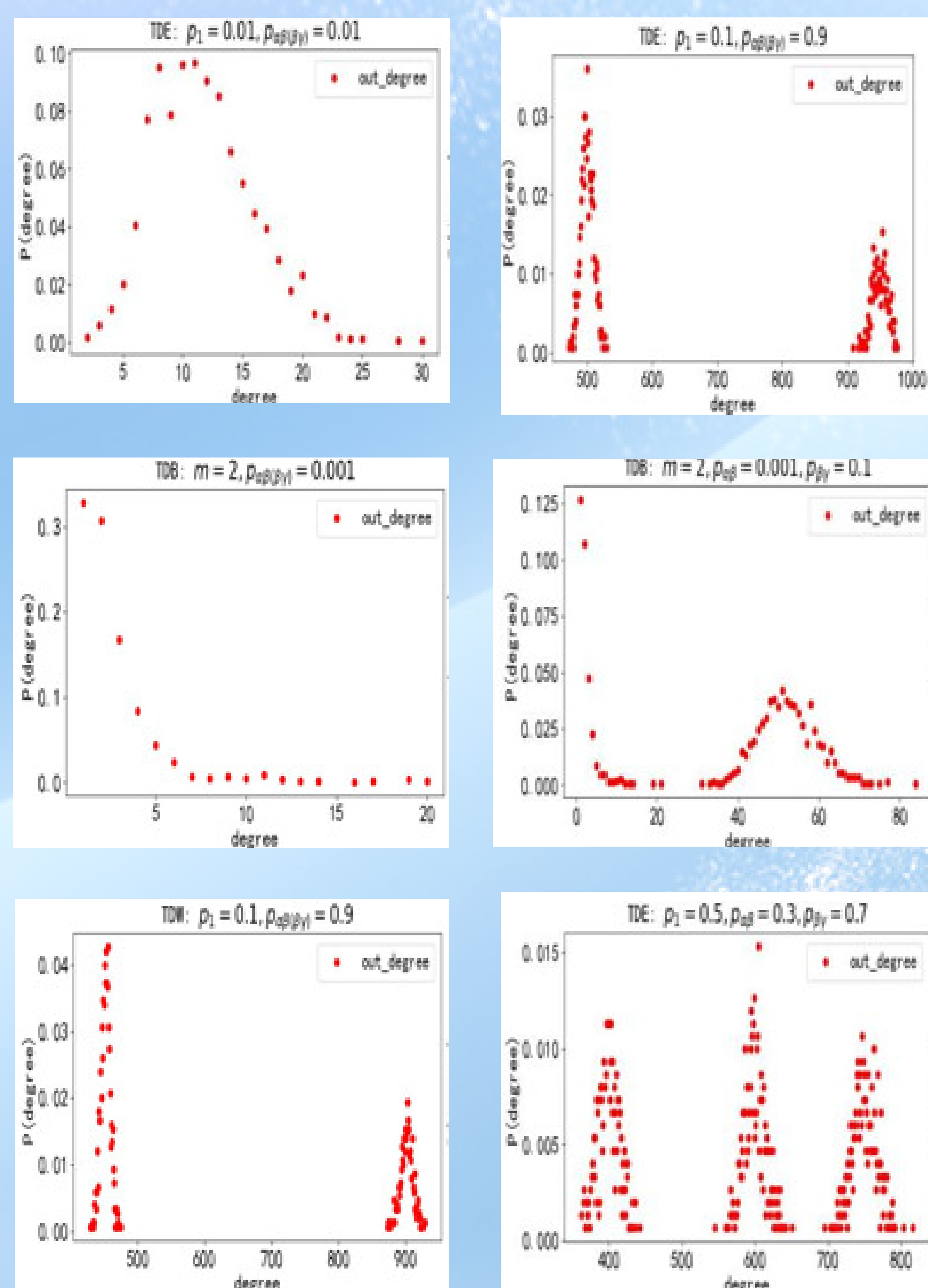
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Main Ideas

(1) This paper constructs three three-layer directed network models combined with traditional complex network theory and analyzes their degree distribution characteristics. (2) By controlling the out-degree and in-degree of the middle-level nodes, a network structure with multimodal characteristics is configured.

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Some Experimental Results



By controlling the connection probability, the degree distribution characteristics of the network are explored. The picture on the left shows: when the connection probabilities are different, the in-degree distribution of the network model is shown as: unimodal, bimodal, power law, power law and unimodal, trimodal.

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Conclusion

1) When the inter-layer connection probability is equal and the value is small, the out-degree distribution and in-degree distribution show unimodal characteristics, and when the value is larger, the out-degree distribution and in-degree distribution show bimodal characteristics. 2) When the inter-layer connection probabilities are not equal, the out-degree distribution and in-degree distribution of the network present the characteristics of three peaks, and when the probability of inter-layer connection is small, the network TDB will have both power law and unimodal coexistence.