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Identifying and ranking influential spreaders in complex networks by neighborhood coreness

Joonhyun Bae, Sangwook Kim

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*Highlights (for review)

The k-shell decomposition correctly identifies influential spreaders in complex networks. The monotonicity of the k-shell index is worse than other centrality measures. We propose an efficient ranking method by balancing the degree and the coreness of a spreader. The proposed method outperforms other measures in the scale-free network with community structure.

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