Degree-truncated choice number of graphs

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Assume G is a connected graph and k is a positive integer. We say G is degree-truncated k-choosable if G is f-choosable, where $f(v) = \min\{d_G(v), k\}$. The degree-truncated choice number $ch^*(G)$ of G is the minimum k such that G is degree-truncated k-choosable. For a family $\mathcal{G}$ of graphs, let $ch^*(\mathcal{G}) = \max\{ch^*(G) : G \in \mathcal{G}\}$. If G is a Gallai-tree, then G is not degree-choosable, and hence G is not degree-truncated k-choosable for any integer k. In this case, the degree-truncated choice number of G is not defined. Otherwise, $ch^*(G)$ is well-defined and is at most the maximum degree of G.

In this talk, I will survey recent progress on the study of degree-truncated choice number of graphs, and pose some questions. This talk includes results in a few papers joint with C. Deng, Y. Jiang, S. Lo, C. Wang, H. Xu, X. Xu, H. Zhou and J. Zhu.

References

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