

References

- [1] E. Andrews, E. Laforge, C. Lumduanhom, and P. Zhang. On proper-path colorings in graphs. *J. Combin. Math. Combin. Comput.*, 97: 189–207, 2016.
- [2] E. Andrews, E. Laforge, C. Lumduanhom, and P. Zhang. Proper-path colorings in graph operations. *Manuscript*.
- [3] J. Bang-Jensen and G. Gutin. Alternating cycles and paths in edge-coloured multi-graphs: a survey. *Discrete Math.*, 165/166:39–60, 1997. Graphs and combinatorics (Marseille, 1995).
- [4] J. Bang-Jensen and G. Gutin. *Digraphs*. Springer Monographs in Mathematics. Springer-Verlag London, Ltd., London, second edition, 2009. Theory, algorithms and applications.
- [5] Z. Bi, A. Byers, and P. Zhang. Proper Hamiltonian-connected graphs. *Manuscript*.
- [6] Z. Bi, G. Chartrand, G. Johns, and P. Zhang. On minimum spanning subgraphs of graphs with proper connection number 2. *Manuscript*.
- [7] V. Borozan, S. Fujita, A. Gerek, C. Magnant, Y. Manoussakis, L. Montero, and Z. Tuza. Proper connection of graphs. *Discrete Math.*, 312(17):2550–2560, 2012. <https://doi.org/10.1016/j.disc.2011.09.003>
- [8] C. Brause, T. D. Doan, and I. Schiermeyer. Minimum degree conditions for the proper connection number of graphs. *Manuscript*.
- [9] H. Chang, Z. Huang, and X. Li. Degree sum conditions for graphs to have proper connection number 2. *arXiv:1611.09500v1*.
- [10] H. Chang, X. Li, C. Magnant, and Z. Qin. The (k, ℓ) -proper index of graphs. *arXiv:1606.03872v2*.
- [11] H. Chang, X. Li, and Z. Qin. Some upper bounds for the 3-proper index of graphs. *Bull. Malays. Math. Sci. Soc.*, DOI 10.1007/s40840-016-0404-5, in press. <https://doi.org/10.1007/s40840-016-0404-5>
- [12] G. Chartrand, S. Devereaux, and P. Zhang. Color-connection and information-transfer paths. *Manuscript*.
- [13] G. Chartrand, G. L. Johns, K. A. McKeon, and P. Zhang. Rainbow connection in graphs. *Math. Bohem.*, 133(1):85–98, 2008.
- [14] G. Chartrand, L. Lesniak, and P. Zhang. *Graphs & digraphs*. CRC Press, Boca Raton, FL, fifth edition, 2011.
- [15] L. Chen, X. Li, and J. Liu. The k -proper index of graphs. *Appl. Math Comput.*, 296:57–63, 2017. <https://doi.org/10.1016/j.amc.2016.10.025>
- [16] E. Chizmar, C. Magnant, and P. Salehi Nowbandegani. Note on vertex and total proper connection numbers. *Manuscript*.

- [17] W. S. Chou, Y. Manoussakis, O. Megalaki, M. Spyrtos, and Zs. Tuza. Paths through fixed vertices in edge-colored graphs. *Math. Inform. Sci. Humaines*, (127):49–58, 1994.
- [18] V. Coll, J. Hook, C. Magnant, K. McCready, and K. Ryan. Proper diameter of graphs. *Manuscript*.
- [19] S. Devereaux, G. Johns, and P. Zhang. Color connection in graphs intermediate to proper and rainbow connection. *Manuscript*.
- [20] D. Dorninger. On permutations of chromosomes. In *Contributions to general algebra, 5 (Salzburg, 1986)*, pages 95–103. Hölder-Pichler-Tempsky, Vienna, 1987.
- [21] D. Dorninger. Hamiltonian circuits determining the order of chromosomes. *Discrete Appl. Math.*, 50(2):159–168, 1994. [https://doi.org/10.1016/0166-218X\(92\)00171-H](https://doi.org/10.1016/0166-218X(92)00171-H)
- [22] D. Dorninger and W. Timischl. Geometrical constraints on Bennet’s predictions of chromosome order. *Heredity*, 58:321–325, 1987. <https://doi.org/10.1038/hdy.1987.138>
- [23] P. Erdős and A. Rényi. On the evolution of random graphs. *Magyar Tud. Akad. Mat. Kutató Int. Közl.*, 5:17–61, 1960.
- [24] S. Fujita, A. Gerek, and C. Magnant. Proper connection with many colors. *J. Comb.*, 3(4):683–693, 2012. <https://doi.org/10.4310/JOC.2012.v3.n4.a6>
- [25] R. Gu, X. Li, and Z. Qin. Proper connection number of random graphs. *arXiv:1505.04646v4*.
- [26] R. Gu, X. Li, and Z. Qin. Proper connection number of random graphs. *Theoret. Comput. Sci.*, 609:336–343, 2016. <https://doi.org/10.1016/j.tcs.2015.10.017>
- [27] R. H. Hammack and D. T. Taylor. Proper connection of direct products. *Manuscript*.
- [28] F. Huang, X. Li, Z. Qin, and C. Magnant. Minimum degree condition for proper connection number 2. *Theoret. Comput. Sci.*, DOI 10.1016/j.tcs.2016.04.042, in press. <https://doi.org/10.1016/j.tcs.2016.04.042>
- [29] F. Huang, X. Li, Z. Qin, C. Magnant, and K. Ozeki. On two conjectures about the proper connection number of graphs. *arXiv:1602.07163v3*.
- [30] F. Huang, X. Li, and S. Wang. Proper connection number and 2-proper connection number of a graph. *arXiv:1507.01426*.
- [31] F. Huang, X. Li, and S. Wang. Upper bounds of proper connection number of graphs. *J. Comb. Optim.*, DOI 10.1007/s10878-016-0056-2, in press. <https://doi.org/10.1007/s10878-016-0056-2>
- [32] F. Huang, X. Li, and S. Wang. Proper connection number of complementary graphs. *Bull. Malays. Math. Sci. Soc.*, DOI 10.1007/s40840-016-0381-8, in press. <https://doi.org/10.1007/s40840-016-0381-8>
- [33] H. Jiang, X. Li, and Y. Zhang. Total proper connection of graphs. *arXiv:1512.00726*.
- [34] H. Jiang, X. Li, Y. Zhang, and Y. Zhao. On (strong) proper vertex-connection of graphs. *Bull. Malays. Math. Sci. Soc.*, DOI 10.1007/s40840-015-0271-5, in press. <https://doi.org/10.1007/s40840-015-0271-5>

- [35] E. Laforge, C. Lumduanhom, and P. Zhang. Characterizations of graphs having large proper connection numbers. *Discuss. Math. Graph Theory*, 36(2): 439–454, 2016. <https://doi.org/10.7151/dmgt.1867>
- [36] E. Laforge, C. Lumduanhom, and P. Zhang. Chromatic-connection in graphs. *Congressus Numerantium*, to appear.
- [37] E. Laforge and P. Zhang. Bounds for proper k -connectivity of complete bipartite graphs. *Manuscript*.
- [38] W. Li, X. Li, and J. Zhang. The k -proper index of complete bipartite and complete multipartite graphs. *arXiv:1608.00105v3*.
- [39] W. Li, X. Li, and J. Zhang. Nordhaus-Gaddum-type theorem for total proper connection number of graphs. *arXiv:1611.08990v2*.
- [40] X. Li, M. Wei, and J. Yue. Proper connection number and connected dominating sets. *Theoretical Comp. Sci.*, 607:480–487, 2015. <https://doi.org/10.1016/j.tcs.2015.06.006>
- [41] X. Li, C. Magnant, M. Wei, and X. Zhu. Distance proper connection of graphs. *arXiv:1606.06547*.
- [42] X. Li, C. Magnant, M. Wei, and X. Zhu. Generalized rainbow connection of graphs and their complements. *Discuss. Math. Graph Theory*, to appear. <https://doi.org/10.7151/dmgt.2011>
- [43] C. Magnant, P. R. Morley, S. Porter, P. Salehi Nowbandegani, and H. Wang. Directed proper connection of graphs. *Manuscript*.
- [44] Y. Mao, F. Yanling, Z. Wang, and C. Ye. Proper connection number and graph products. *arXiv:1505.02246*.
- [45] R. Melville and W. Goddard. Coloring graphs to produce properly colored walks. *Manuscript*.
- [46] V. G. Vizing. On an estimate of the chromatic class of a p -graph. *Diskret. Analiz No.*, 3:25–30, 1964.