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ON SUPER EDGE-ANTIMAGICNESS OF SUBDIVIDED STARS

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Abstract

Enomoto, Llado, Nakamigawa and Ringel (1998) defined the concept of a super $(a, 0)$-edge-antimagic total labeling and proposed the conjecture that every tree is a super $(a, 0)$-edge-antimagic total graph. In the support of this conjecture, the present paper deals with different results on super (a, d)-edge-antimagic total labeling of subdivided stars for $d \in \{0, 1, 2, 3\}$.

Keywords: super (a, d)-EAT labeling, stars, subdivision of stars.

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References

[1] M. Bača, Y. Lin, M. Miller and M.Z. Youssef, *Edge-antimagic graphs*, Discrete Math. **307** (2007) 1232–1244.
doi:10.1016/j.disc.2005.10.038

[2] M. Bača, Y. Lin, M. Miller and R. Simanjuntak, *New constructions of magic and antimagic graph labelings*, Util. Math. **60** (2001) 229–239.

[3] M. Bača, Y. Lin and F.A. Muntaner-Batle, *Super edge-antimagic labelings of the path-like trees*, Util. Math. **73** (2007) 117–128.

[4] M. Bača and M. Miller, Super Edge-Antimagic Graphs (Brown Walker Press, Boca Raton, Florida USA, 2008).

[5] M. Bača, A. Semaničová-Feňovčíková and M.K. Shafiq, *A method to generate large classes of edge-antimagic trees*, Util. Math. **86** (2011) 33–43.

[6] Dafik, M. Miller, J. Ryan and M. Bača, *On super (a, d)-edge antimagic total labeling of disconnected graphs*, Discrete Math. **309** (2009) 4909–4915.
doi:10.1016/j.disc.2008.04.031

[7] H. Enomoto, A.S. Lladó, T. Nakamigawa and G. Ringel, *Super edge-magic graphs*, SUT J. Math. **34** (1998) 105–109.

[8] R.M. Figueroa-Centeno, R. Ichishima and F.A. Muntaner-Batle, *The place of super edge-magic labelings among other classes of labelings*, Discrete Math. **231** (2001) 153–168.
doi:0.1016/S0012-365X(00)00314-9

[9] R.M. Figueroa-Centeno, R. Ichishima and F.A. Muntaner-Batle, *On super edge-magic graph*, Ars Combin. **64** (2002) 81–95.

[10] Y. Fukuchi, *A recursive theorem for super edge-magic labeling of trees*, SUT J. Math. **36** (2000) 279–285.

[11] J.A. Gallian, *A dynamic survey of graph labeling*, Electron. J. Combin. **17** (2010).

[12] M. Javaid, M. Hussain, K. Ali and K.H. Dar, *Super edge-magic total labeling on w-trees*, Util. Math. **86** (2011) 183–191.

[13] M. Javaid, A.A. Bhatti and M. Hussain, *On (a, d)-edge-antimagic total labeling of extended w-trees*, Util. Math. **87** (2012) 293–303.

[14] M. Javaid, A.A. Bhatti, M. Hussain and K. Ali, *Super edge-magic total labeling on forest of extended w-trees*, Util. Math. **91** (2013) 155–162.

[15] M. Javaid, M. Hussain, K. Ali and H. Shaker, *On super edge-magic total labeling on subdivision of trees*, Util. Math. **89** (2012) 169–177.

[16] M. Javaid and A.A. Bhatti, *On super (a, d)-edge-antimagic total labeling of subdivided stars*, Ars Combin. **105** (2012) 503–512.

[17] M. Javaid, *On super edge-antimagic total labeling of subdivided stars*, Discuss. Math. Graph Theory **34** (2014) 691–705.
doi:10.7151/dmgt.1764

[18] M. Javaid and A.A. Bhatti, *Super (a, d)-edge-antimagic total labeling of subdivided stars and w-trees*, Util. Math., to appear.

[19] A. Kotzig and A. Rosa, *Magic valuations of finite graphs*, Canad. Math. Bull. **13** (1970) 451–461.
doi:10.4153/CMB-1970-084-1

[20] A. Kotzig and A. Rosa, *Magic valuation of complete graphs*, Centre de Recherches Mathematiques, Universite de Montreal (1972) CRM-175.

[21] S.M. Lee and Q.X. Shah, *All trees with at most* 17 *vertices are super edge-magic*, 16th MCCCC Conference, Carbondale (Southern Illinois University, November 2002).

[22] S.M. Lee and M.C. Kong, *On super edge-magic n stars*, J. Combin. Math. Combin. Comput. **42** (2002) 81–96.

[23] Y.-J. Lu, *A proof of three-path trees $P(m, n, t)$ being edge-magic*, College Math. **17(2)** (2001) 41–44.

[24] Y.-J. Lu, *A proof of three-path trees $P(m, n, t)$ being edge-magic* (II), College Math. **20(3)** (2004) 51–53.

[25] A.A.G. Ngurah, R. Simanjuntak and E.T. Baskoro, *On (super) edge-magic total labeling of subdivision of $K_{1,3}$*, SUT J. Math. **43** (2007) 127–136.

[26] A.N.M. Salman, A.A.G. Ngurah and N. Izzati, *On super edge-magic total labeling of a subdivision of a star S_n*, Util. Math. **81** (2010) 275–284.

[27] R. Simanjuntak, F. Bertault and M. Miller, *Two new (a, d)-antimagic graph labelings*, in: Proc. of Eleventh Australasian Workshop on Combinatorial Algorithms **11** (2000) 179–189.

[28] Slamin, M. Bača, Y. Lin, M. Miller and R. Simanjuntak, *Edge-magic total labelings of wheel, fans and friendship graphs*, Bull. Inst. Combin. Appl. **35** (2002) 89–98.

[29] K.A. Sugeng, M. Miller, Slamin and M. Bača, *(a, d)-edge-antimagic total labelings of caterpillars*, Lect. Notes Comput. Sci. **3330** (2005) 169–180.

[30] D.B. West, An Introduction to Graph Theory (Prentice-Hall, 1996).

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