The study of the adjacent vertices fault-tolerance for two spannability of star graphs

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Star graph S_n n

S_n P1   P2   Fe S_n Fav S_n

Sn ?5   Sn ? Fe ? Fav   Fe + Fav ? n – 4   2   s1, s2 ?k V0   t1, t2 ?k V1

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[1] S.B. Akers, B. Krishnamurthy, " A group-theoretic model for symmetric in- terconnection networks," IEEE Transaction on Computers, 38, pp. 555-566, 1989. [2] N. Bagherzadeh, M. Dowd and N. Nassif," Embedding an arbitrary binary tree into the star graph," IEEE Trans. Comput. 45,pp. 475-481, 1996. [3] J.H. Chang, C.S. Shin and K.Y. Chwa," Ring embedding in faulty star graphs," IEICE Trans. Fund. E82-A. pp. 1953-1964, 1999. [4] Cheng Dongqin and Guo Dachang, " Cycle embedding in star graphs with more conditional faulty edges," Applied Mathematics and Computation, 218, pp.3856-3867, 2011. [5] Jung-Sheng Fu, " Conditional fault-tolerant hamiltonicity of star graphs," Parallel Computing, 33, pp.488-496, 2007. [6] S.Y. Hsieh, G.H. Chen and C.W. Ho, " Longest fault-free paths in star graphs with vertex faults," Theoret. Comput. 262,pp. 215-227, 2001. [7] S.Y. Hsieh, G.H. Chen, C.W. Ho, " Longest fault-free paths in star graphs with edge faults," IEEE Trans. Comput. 50,pp. 960-971, 2001. [8] S.Y. Hsieh, " Embedding longest fault-free paths onto star graphs with more vertex faults," Theoret. Comput. 337,pp. 370-378, 2005. [9] S.Y. Hsieh and C.D. Wu, " Optimal fault-tolerant Hamiltonicity of star graphs with conditional edge faults," Journal of Supercomputing, 49, pp.354-372, 2009. [10] Chao-Wen Huang, Hui-Ling Huang and Sun-Yuan Hsieh, " Edge- bipancyclicity of star graphs with faulty elements," Theoretical Computer Science, 412, pp.6938-6947, 2011. [11] Chun-Nan Hung, Yi-Hua Chang, and Chao-Min Sun, " Longest paths and cycles in fault hypercubes," Proceedings of the IASTED International Conference on Parallel and Distributed Computing and Networks. pp. 101-110, 2006. [12] Chun-Nan Hung, Chi-Lai Liu and Hsuan-Han Chang, " Edge Fault Tolerance for Two-Pair Spanning Disjoint Paths," Proceedings of the 25th Workshop on Combinatorial Mathematics and Computation Theory. pp. 375-384, 2008. [13] J.S. Jwo, S. Lakshmivarahan and S.K. Dhall, " Embedding of cycles and grids in star graphs," Journal of Circuits, Systems and Computers, 1, pp. 43-74, 1991. [14] S. Latifi and N. Bagherzadeh, " Hamiltonicity of the clustered-star graph with embedding applications," Proc. Internat. Conf. Parallel Distributed Process. Tech. pp. 734-744, 1996. [15] Shahram Latifi, " A study of fault tolerance in star graph," Information Processing Letters, 102, pp.192-200, 2007. [16] Tseng-Kuei Li, Jimmy J.M. Tan and Lih-Hsing Hsu, " Hyper hamiltonian laceability on edge fault star graph," Information Sciences, 165, pp. 59-71, 2004. [17] Tseng-Kuei Li, " Cycle embedding in star graphs with edge faults," Applied Mathematics and Computation, 167, pp.891-900, 2005. [18] C.K. Lin, H.M. Huang and L.H. Hsu, " The super connectivity of the pancake graphs and the super laceability of the star graphs," Theoretical Computer Science, 339, pp. 257-271, 2005. [19] Z. Miller, D. Pritikin and I.H. Sudborough, " Near embeddings of hypercubes into Cayley graphs on the symmetric group," IEEE Transaction on Computers, 43, pp. 13-22, 1994. [20] Tsung-Han Ou and Chun-Nan Hung, " The Adjacent Vertices Fault Tolerance Hamiltonian Laceability of Star Graphs," Proceedings of the 2011 National Computer Symposium Workshop on Algorithms and Bioinformatics. pp. 65- 71, 2011. [21] Jung-Heum Park and Hee-Chul Kim, " Longest paths and cycles in faulty star graphs," Journal of Parallel and Distributed Computing, 64, pp.1286-1296, 2004. [22] S. Ranka, J.C.Wang and N. Yeh, " Embedding meshes on the star graph," Journal of Parallel and Distributed Computing, 19, pp. 131-135, 1993. [23] Wen-Yan Su and Chun-Nan Hung, " The Longest Ring Embedding in Faulty Hypercube," Proceedings of the 23rd Workshop on Combinatorial Mathematics and Computational Theory.

pp. 262-272, 2006. [24] Yu-Chee Tseng, S.H. Chang and J.P. Sheu, "Fault-tolerant ring embedding in star graphs with both link and node failures," IEEE Transactions on Parallel and Distributed Systems, 8, pp. 1185-1195, 1997. [25] Chang-Hsiung Tsai, Jimmy J.M. Tan, Tyne Liang, and Lih-Hsing Hsu, "Fault- tolerant hamiltonian laceability of hypercubes," Information Processing Letters, 83, pp. 301-306, 2006. [26] Y. C. Tseng, "Embedding a ring in a hypercube with both faulty links and faulty nodes," Information Processing Letters, 59, pp.217-222, 1996. [27] D. J. Wang, "Embedding Hamiltonian cycles into folded hypercubes with link faults," Journal of Parallel and Distributed Computing, 61, pp.545-564, 2001. [28] W. Q. Wang and X.B. Chen, "A fault-free Hamiltonian cycle passing through prescribed edges in a hypercube with faulty edges," Information Processing Letters, 107, pp.205-210, 2008. [29] Min Xu, Xiao-Dong Hu and Qiang Zhu, "Edge-bipancyclicity of star graphs under edge-fault tolerant," Applied Mathematics and Computation, 183, pp.972-979, 2006. [30] Ming-Chien Yang, "Path embedding in star graphs," Applied Mathematics and Computation, 207, pp.283-291, 2009. [31] Ming-Chien Yang, "Embedding cycles of various lengths into star graphs with both edge and vertex faults," Applied Mathematics and Computation, 216, pp.3754-3760, 2010. [32] Ming-Chien Yang, "Cycle embedding in star graphs with conditional edge faults," Applied Mathematics and Computation, 215, pp.3541-3546, 2009. [33] M. C. Yang, T.K. Li, Jimmy J.M. Tan and L.H. Hsu, "Fault tolerant cycle- embedding of crossed cubes," Information Processing Letters, 88, pp. 149-154, 2003. [34] Chun-Yen Yang and Chun-Nan Hung, "Adjacent Vertices Fault Tolerance Hamiltonian Laceability of Star Graphs", The Proceedings of the 23rd Workshop on Combinatorial Mathematics and Computation Theory, pp. 279-289, 2006. [35] T.Y. Yu and C.N. Hung, "The Hamiltonian path passing through prescribed edges in a star graph with faulty edges," Proceedings of the 28th Workshop on Combinatorial Mathematics and Computation Theory, pp. 112-123, 2011.

References [1] S.B. Akers, B. Krishnamurthy, "A group-theoretic model for symmetric in- terconnection networks," IEEE Transaction on Computers, 38, pp. 555-566, 1989.

[2] N. Bagherzadeh, M. Dowd and N. Nassif," Embedding an arbitrary binary tree into the star graph," IEEE Trans. Comput. 45,pp. 475-481, 1996.

[3] J.H. Chang, C.S. Shin and K.Y. Chwa," Ring embedding in faulty star graphs," IEICE Trans. Fund. E82-A. pp. 1953-1964, 1999.

[4] Cheng Dongqin and Guo Dachang, "Cycle embedding in star graphs with more conditional faulty edges," Applied Mathematics and Computation, 218, pp.3856-3867, 2011.

[5] Jung-Sheng Fu, "Conditional fault-tolerant hamiltonicity of star graphs," Parallel Computing, 33, pp.488-496, 2007.

[6] S.Y. Hsieh, G.H. Chen and C.W. Ho, "Longest fault-free paths in star graphs with vertex faults," Theoret. Comput. 262,pp. 215-227, 2001.

[7] S.Y. Hsieh, G.H. Chen, C.W. Ho, "Longest fault-free paths in star graphs with edge faults," IEEE Trans. Comput. 50,pp. 960-971, 2001.

[8] S.Y. Hsieh, "Embedding longest fault-free paths onto star graphs with more vertex faults," Theoret. Comput. 337,pp. 370-378, 2005.

[9] S.Y. Hsieh and C.D. Wu, "Optimal fault-tolerant Hamiltonicity of star graphs with conditional edge faults," Journal of Supercomputing, 49, pp.354-372, 2009.

[10] Chao-Wen Huang, Hui-Ling Huang and Sun-Yuan Hsieh, "Edge- bipancyclicity of star graphs with faulty elements," Theoretical Computer Science, 412, pp.6938-6947, 2011.

[11] Chun-Nan Hung, Yi-Hua Chang, and Chao-Min Sun, "Longest paths and cycles in fault hypercubes," Proceedings of the IASTED International Conference on Parallel and Distributed Computing and Networks. pp. 101-110, 2006.

[12] Chun-Nan Hung, Chi-Lai Liu and Hsuan-Han Chang, "Edge Fault Tolerance for Two-Pair Spanning Disjoint Paths," Proceedings of the 25th Workshop on Combinatorial Mathematics and Computation Theory. pp. 375-384, 2008.

[13] J.S. Jwo, S. Lakshmivarahan and S.K. Dhall, "Embedding of cycles and grids in star graphs," Journal of Circuits, Systems and Computers, 1, pp. 43-74, 1991.

[14] S. Latifi and N. Bagherzadeh, "Hamiltonicity of the clustered-star graph with embedding applications," Proc. Internat. Conf. Parallel Distributed Process. Tech. pp. 734-744, 1996.

[15] Shahram Latifi, "A study of fault tolerance in star graph," Information Processing Letters, 102, pp.192-200, 2007.

[16] Tseng-Kuei Li, Jimmy J.M. Tan and Lih-Hsing Hsu, "Hyper hamiltonian laceability on edge fault star graph," Information Sciences, 165, pp. 59-71, 2004.

[17] Tseng-Kuei Li, "Cycle embedding in star graphs with edge faults," Applied Mathematics and Computation, 167, pp.891-900, 2005.

[18] C.K. Lin, H.M. Huang and L.H. Hsu, "The super connectivity of the pancake graphs and the super laceability of the star graphs," Theoretical Computer Science, 339, pp. 257-271, 2005.

[19] Z. Miller, D. Pritikin and I.H. Sudborough, "Near embeddings of hypercubes into Cayley graphs on the symmetric group," IEEE Transaction on Computers, 43, pp. 13-22, 1994.

[20] Tsung-Han Ou and Chun-Nan Hung, "The Adjacent Vertices Fault Tolerance Hamiltonian Laceability of Star Graphs," Proceedings of

the 2011 National Computer Symposium Workshop on Algorithms and Bioinformatics. pp. 65- 71, 2011.

[21] Jung-Heum Park and Hee-Chul Kim, " Longest paths and cycles in faulty star graphs," Journal of Parallel and Distributed Computing, 64, pp.1286-1296, 2004.

[22] S. Ranka, J.C.Wang and N. Yeh, " Embedding meshes on the star graph," Journal of Parallel and Distributed Computing, 19, pp. 131-135, 1993.

[23] Wen-Yan Su and Chun-Nan Hung, " The Longest Ring Embedding in Faulty Hypercube," Proceedings of the 23rd Workshop on Combinatorial Mathematics and Computational Theory. pp. 262-272, 2006.

[24] Yu-Chee Tseng, S.H. Chang and J.P. Sheu, " Fault-tolerant ring embedding in star graphs with both link and node failures," IEEE Transactions on Parallel and Distributed Systems, 8, pp. 1185-1195, 1997.

[25] Chang-Hsiung Tsai, Jimmy J.M. Tan, Tyne Liang, and Lih-Hsing Hsu, " Fault- tolerant hamiltonian laceability of hypercubes," Information Processing Letters , 83, pp. 301-306, 2006.

[26] Y. C. Tseng, " Embedding a ring in a hypercube with both faulty links and faulty nodes," Information Processing Letters, 59, pp.217-222, 1996.

[27] D. J. Wang, " Embedding Hamiltonian cycles into folded hypercubes with link faults," Journal of Parallel and Distributed Computing, 61, pp.545-564, 2001.

[28] W. Q. Wang and X.B. Chen, " A fault-free Hamiltonian cycle passing through prescribed edges in a hypercube with faulty edges," Information Processing Letters, 107, pp.205-210, 2008.

[29] Min Xu, Xiao-Dong Hu and Qiang Zhu, " Edge-bipancyclicity of star graphs under edge-fault tolerant," Applied Mathematics and Computation, 183, pp.972-979, 2006.

[30] Ming-Chien Yang, " Path embedding in star graphs," Applied Mathematics and Computation, 207, pp.283-291, 2009.

[31] Ming-Chien Yang, " Embedding cycles of various lengths into star graphs with both edge and vertex faults," Applied Mathematics and Computation, 216, pp.3754-3760, 2010.

[32] Ming-Chien Yang, " Cycle embedding in star graphs with conditional edge faults," Applied Mathematics and Computation, 215, pp.3541-3546, 2009.

[33] M. C. Yang, T.K. Li, Jimmy J.M. Tan and L.H. Hsu, " Fault tolerant cycle- embedding of crossed cubes," Information Processing Letters, 88, pp.149-154, 2003.

[34] Chun-Yen Yang and Chun-Nan Hung, " Adjacent Vertices Fault Tolerance Hamiltonian Laceability of Star Graphs", The Proceedings of the 23rd Workshop on Combinatorial Mathematics and Computation Theory, pp. 279-289, 2006.

[35] T.Y. Yu and C.N. Hung, " The Hamiltonian path passing through prescribed edges in a star graph with faulty edges," Proceedings of the 28th Workshop on Combinatorial Mathematics and Computation Theory, pp. 112-123, 2011.