References

[1] Yui Hou,Yuan Jhou, Jian Wu, Huihui Song, Yanbin Qu, “A New Type of Curved Coupling Coil for Wireless Power Transmission,”22nd International Conference on Electrical Machines and Systems (ICEMS), pp. 19-25, Aug. 2019.

[2] Tasnime Bouanou, Hassan El Fadil, Abdellah Lassioui, “Analysis and Design of Circular Coil Transformer in a Wireless Power Transfer System for Electric Vehicle Charging Application,” Proc IEEE 4th International Conference on Electrical and Information Technologies ICEIT’2020, 13-17 June, 2020.

[3] Linlin Gao, Xingming Fan, Chao Wang, Yuanming Tan, Xin Zhang, “Coil Design of EVs Wireless Charging System Based on MCR-WPT,” 2018 11th International Symposium on Computational Intelligence and Design, pp. 169-172, 2018.

[4] A. Kurs, “Wireless power transfer via strongly coupled magnetic resonances,” Science express, pp. 83–86, June 2007.

[5] Nguyen TD, Li S, Li W, Mi CC. “Feasibility study on bipolar pads for efficient wireless power chargers.” In: 2014 twenty-ninth annual IEEE applied power electronics conference and exposition (APEC), 16-20 March. IEEE; 2014. p. 1676-82.

[6] Sallan J, Villa J. L, Llombart A, ve Sanz J. F, “Optimal design of ICPT systems applied to electric vehicle battery charge,” in IEEE Trans. on Industrial Electronics, vol. 56, no. 6, pp. 2140-2149, June 2009.

[7] Choi SY, Gu BW, Jeong SY, Rim CT. “Advances in wireless power transfer systems for road way powered electric vehicles.” IEEE J Emerg Sel Topics Power Electron 2015; 3(1):18-36.

[8] Wang C. S, Covic G. A, ve Stielau O. H., ‘‘Power transfer capability and bifurcation phenomena of loosely coupled inductive power transfer systems,’’ IEEE Transaction on Industrial Electronics, vol.51, no. 1, pp. 148–157, Feb. 2004.

[9] Society of Automotive Engineers SAE J1772-2001 electric vehicle conductive charge coupler[S] USA2001.

[10] Zhang Xian, Yang Qingxin, Cui Yulong, et al. “Design Optimization and Verification on the Power Transmitting Coil in the High-Power Wireless Power Transmission System,” Transactions of China Electrotechnical Society, vol. 28, Oct. 2013, pp. 12-18.

[11] Cove S R Ordonez M Shafiei N et al. “Improving Wireless Power Transfer Efficiency Using Hollow Windings with Track-Width Ratio[J]”. IEEE Transactions on Power Electronics, 2015.

[12] Meng W Jing F Yanyan S et al. “Demagnetization Weakening and Magnetic Field Concentration with Ferrite Core Characterization for Efficient Wireless Power Transfer[J”]. IEEE Transactions on Industrial Electronics, 2018,66(3):1842-1851.

[13] Ha-Van N, Seo C. “Analytical and Experimental Investigations of Omnidirectional Wireless Power Transfer using a Cubic Transmitter[J]”. IEEE Transactions on Industrial Electronics, 2017:1-1.

[14] M. Budhia, J.T. Boys, G.A. Covic and C.–Y. Huang, “Development of a single-sided flux magnetic coupler for electric vehicle IPT charging systems,” IEEE Transactions on Industrial Electronics, vol. 60. No. 1, pp. 318-328, January 2013, DOI: 10.1109/ IE. 2011.2179274.

[15] S. Chopra and P. Bauer, “Driving range extension of EV with on road contactless power transfer – a case study,” IEEE Trans. Ind. Electron., vol. 60, no. 1, pp. 329–338, Jan. 2013, DOI: 10.1109/ TIE.2011.2182015.

[16] G.A. Covic and J.T. Boys, “Modern trends in inductive power transfer for transportation applications,” IEEE J. Emerging Sel. Topics Power Electron., vol. 1, no. 1, pp. 28–41, Mar. 2013, DOI:10.1109/JESTPE. 2013. 2264473.

[17] N.Y. Kim, K. Y. Kim, J. Choi, and C.-W. Kim, “Adaptive frequency with power-level tracking system for efficient magnetic resonance wireless power transfer,” Electronics Letters, vol. 48, no. 8, pp. 452454, April 2012.

[18] J.M. Miller, C.P. White, O.C. Onar, and P.M. Ryan, “Grid side regulation of wireless power charging for plug-in electric vehicles,” in Proc., IEEE Energy Conversion Congress and Exposition (ECCE’12), pp. 261-268, September 2012, Raleigh, NC, DOI:10.1109/ECCE.2012. 6342814.

[19] Maryam Salama Mohamed, Mohamed Abdul Raouf Shafei, Doaa Khalil Ibrahim, Ahmed Ali Mansour, “Coils Design and Parallel Resonant H-bridge Inverter for Inductive Power Transfer of Low-power portable devices,” 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Egypt, pp.621-626, June, 2019.

[20] T. Nikola, “System of electric lighting,” 1891, US Patent 454’622.

[21] Wu HH, Gilchrist A, Sealy KD, Bronson D. “A high efficiency 5 kW inductive charger for EVs using dual side control.” IEEE Trans Ind Informat 2012;8(3):585-95.

[22] Budhia M, Covic GA, Boys JT. “Design and optimization of circular magnetic structures for lumped inductive power transfer systems.” IEEE Trans Power Electron 2011;26(11):3096-108.

[23] Takanashi H, Sato Y, Kaneko Y, Abe S, Yasuda T. “A large air gap 3 kW wireless power transfer system for electric vehicles.” In: 2012 IEEE energy conversion congress and exposition (ECCE). IEEE; 2012. p. 269-74.

[24] Wang C.S., Covic G. A., ve Stielau O. H., “General stability criterions for zero phase angle controlled loosely coupled inductive power transfer systems,” in Proc. IEEE Annual Conf. of the Industrial Electronics Society, Denver, CO, vol. 2, Nov. 2001, pp. 1049-1054.

[25] Budhia M, Boys JT, Covic GA, Huang CY. “Development of a single-sided flux magnetic coupler for electric vehicle IPT charging systems.” IEEE Trans Ind Electron 2013;60(1):318-28.

[26] Kamineni A, Covic GA, Boys JT. “Analysis of coplanar intermediate coil structures in inductive power transfer systems.” IEEE Trans Power Electron 2015;30(11):6141-54.

[27] Kissin MLG, Covic GA, Boys JT. “Steady-state flat-pickup loading effects in polyphase inductive power transfer systems.” IEEE Trans Ind Electron 2011;58(6):2274-82.

[28] Shan, D.; Wang, H.; Cao, K.; Zhang, J. “Wireless power transfer system with enhanced efficiency by using frequency reconfigurable metamaterial.” Sci. Rep. 2022, 12, 331.

[29] Gore, V.B.; Gawali, D.H. “Wireless power transfer technology for medical applications.” In Proceedings of the Conference on Advances in Signal Processing (CASP), Pune, India, 9–11 June 2016; pp. 455–460.

[30] Lee K, Pantic Z, Lukic SM. “Reflexive field containment in dynamic inductive power transfer systems.” IEEE Trans Power Electron 2014;29(9):4592-602.

[31] Barsukov, Y. Qian, J. “Battery Power Management for Portable Devices, Artech House” Power Engineering; Artech House: London, UK, 2013.

[32] Abdul-jabbar, T.A. Obed, A.A. Abid, A.J. “Design of an Uninterrupted Power Supply with Li-Ion Battery Pack: A Proposal for a Cost-Efficient Design with High Protection Features.” J. Technol. 2021, 3, 1–10.

[33] Alam, B. Islam, N. Subhan ISarfraz, M. “Analysis and Modelling of Basic Wireless Power Transfer Compensation Topology: A Review. In Intelligent Data Analytics for Power and Energy Systems” Lecture Notes in Electrical Engineering; Springer: Singapore, 2022; Volume 802.

[34] Okoyeigbo, O. Olajube, A. Shobayo, O. Aligbe, A. Ibhaze, A.E. “Wireless power transfer: A review. In IOP Conference Series: Earth and Environmental Science” IOP Publishing: Bristol, UK, 2021; Volume 012032, pp. 1–9.

[35] Valone, T.F. “Geoengineering Tesla’s Wireless Power Transmission, Extra Ordinary Science and Technology.” 2017, pp. 31–42. Available online:

[36] Schuder, J.C, Stephenson, H.E, Townsend, J.F.”High level electromagnetic energy transfer through a closed chestwall.” IRE Int. Conv. Rec. 1961, 9, 119–126.

[37] International Astronautical Congress, Valencia, Spain, 3 October 2006. Paper IAC-06-C3.1.01.

[38] Li W, Zhao H, Li S, Deng J, Kan T, Mi CC. “Integrated LCC compensation topology for wireless charger in electric and plug-in electric vehicles.” IEEE Trans Ind Electron 2015;62(7):4215-25.

[39] Kurs, A. Karalis, A. Moffatt, R. Joannopoulos, J.D. Fisher, P. Soljacic, M. :Wireless power transfer via strongly coupled magnetic resonances.” Science 2007, 6, 86.

[40] 2013 World Electric Vehicle Symposium and Exhibition (EVS27), Barcelona, Spain, 17–20 November 2013; pp. 1–9.

[41] Lu F, Zhang H, Hofmann H, Mi C. “A high efficiency 3.3 kW loosely-coupled wireless power transfer system without magnetic material”. In: 2015 IEEE energy conversion congress and exposition (ECCE). IEEE; 2015. p. 2282-6.

[42] Li, S. Mi, C.C. “Wireless Power Transfer for Electric Vehicle Applications.” IEEE J. Emerg. Sel. Top. Power Electron. 2015, 3, 4–17.

[43] “Limitation and Practical Solution for Underwater Wireless Power Transfer”. Int. J. Adv. Comput. Sci. Appl. 2020, 11, 554–562.

[44] Barbruni, G.L. Ros, P.M. Demarchi, D. Carrara, S. Ghezzi, D. “Miniaturised Wireless Power Transfer Systems for Neurostimulation: A Review.” IEEE Trans. Biomed. Circuits Syst. 2020, 14, 1160–1178.

[45] Kim, J.D. Sun, C. Suh, I.S. “A proposal on wireless power transfer for medical implantable applications based on reviews.” In Proceedings of the 2014 IEEE Wireless Power Transfer Conference, Jeju, Korea, 19 June 2014; pp. 166–169.

[46] Kuka, S. Ni, K. Alkahtani, M. “A review of method and challenges for Improvement in Efficiency and Distance for Wireless Power Transfer.” Power Electron. Driv. 2020, 5, 1–25.

[47] Sidiku, M.B, Eronu, E.M, Ashigwuike, E.C “Review On Wireless Power Transfer: Concepts, Implementations, Challenges, and Mitigation.” Niger. J. Technol. 2020, 39, 1206–1215.

[48] Zhang, Z, Pang, H, Georgiadis, A, Cecati, C. “Wireless Power Transfer—An Overview.” IEEE Trans. Ind. Electron. 2019, 66, 1044–1058.

[49] Foote, A, Onar, O.C. “A review of high-power wireless power transfer.” In Proceedings of the 2017 IEEE Transportation Electrification Conference and Expo (ITEC), Chicago, IL, USA, 22 June 2017; pp. 234–240.

[50] Popovic, Z. “Near- and Far-Field Wireless Power Transfer.” In Proceedings of the 2017 13th International Conference on Advanced Technologies, Systems and Services in Telecommunications (TELSIKS), Nis, Serbia, 18–20 October 2017.

[51] Bosshard R, Kolar J.W, Mühlethaler J, Stevanovic I, Wunsch B, Canales F. “Modelling and η-α-Pareto optimization of inductive power transfer coils for electric vehicles.” IEEE J Emerg Sel Topics Power Electron 2015;3(1):50-64.

[55] Brecher A, Arthur D. “Review and evaluation of wireless power transfer (WPT) for electric transit applications.” Washington, DC: U. S. Department of Transportation; 2014.

[56] Conductix-Wampfler. Product overview: “Inductive power transfer - IPT.” Omaha, NE: ConductixWampfler; 2012.

[57] Suh IS, Kim J. “Electric vehicle on-road dynamic charging system with wireless power transfer technology.” In: 2013 IEEE international electric machines & drives conference (IEMDC), 12-15 May. IEEE; 2013. p. 234-40.

[58] Bombardier PRIMOVE team. Projects of Bombardier PRIMOVE, http://primove.bombardier.com/; 2015 [accessed June 2015].

[59] Tell RA, Kavet R, Bailey JR, Halliwell J. “Very-low-frequency and low-frequency electric and magnetic fields associated with electric shuttle bus wireless charging.” Radiat Prot Dosim 2014;158(2):123-34.

[60] Bailey JR, Hairr ME. “Wayside charging and hydrogen hybrid bus: Extending the range of electric shuttle buses.” Washington, DC: U.S. Department of Transportation Federal Transit Administration; 2012.

[61] WAVE team. WAVE Projects, http://www.waveipt.com/; 2015 [accessed June 2015]. 28.

[62] ZTE Corporation. Launch of the first pre-commercial bus route in China deploying buses with high power wireless-charging system, http://wwwen.zte.com.cn/en/about /investor_relations/announcement/201409/P020140918693716018 772.pdf 2014 [accessed November 2015].

[63] ZTE Corporation. “ZTE innovative auto wireless charging solution,” https://www.itu.int/en/ITUT/extcoop/cits/Documents/ITS%20Events-201507-Beijing/Presentations/S1P4-Academus-Tian.pdf; 2015 [accessed November 2015].

[64] ZTE Corporation. “Leading industrial solution and commercial implementation case study in China,” http://www.apec-conf.org/wp-content/uploads/IS-12.4.pdf; 2015 [accessed November 2015].

[65] BYD Auto Company. 2013 BYD 40-ft electric bus specs, http://www.byd.com/la/auto/ebus.html; 2013 [accessed May 2014].

[66] Lin, W, Ziolkowski, R.W. “Far field wireless power transfer for IoT applications enabled by an ultra-compact and highly-efficient Huygens rectenna.” In Proceedings of the 2020 IEEE Wireless Power Transfer Conference (WPTC), Seoul, Korea, 24 December 2020; pp. 69–71.

[67] Zhang, H, Shlezinger, N, Guidi, F, Dardari, D, Imani, M.F, Eldar, Y.C. “Near-Field Wireless Power Transfer for 6G Internet of Everything Mobile Networks: Opportunities and Challenges.” IEEE Commun. Mag. 2022, 60, 12–18.

[68] Wang, C, Xu, W, Zhang, C, Wang, M, Wang, X. “Microwave wireless power transmission technology index system and test evaluation methods.” EURASIP J. Adv. Signal Process. 2022, 16, 2478.

[69] Jin, K.; Zhou, W. “Wireless Laser Power Transmission: A Review of Recent Progress.” IEEE Trans. Power Electron. 2018, 34, 3842–3859.

[70] Zhang, Q, Fang, W, Liu, Q, Wu, J, Xia, P, Yang, L. “Distributed Laser Charging: A Wireless Power Transfer Approach.” IEEE Internet Things J. 2018, 5, 3853–3864.

[71] Wang, X, Lu, C, Wang, C, Liu, P, Xu W, Zhou Y, Wang F. “Methods for testing the performance of long-distance wireless power transmission systems.” EURASIP J. Wirel. Commun. Netw. 2020, 2020, 2536.

[72] Dang, K, Zhang, J, Zhou, H, Huang, S, Zhang, T, Bian, Z, Zhang, Y, Wang, X, Zhao, S, Wei, K, et al. “A 5.8-GHz High-Power and High-Efficiency Rectifier Circuit with Lateral GaN Schottky Diode for Wireless Power Transfer.” IEEE Trans. Power Electron. 2020, 35, 2247–2252.

[73] Zheng S, Liu W, Pan Y, “Design of an Ultra-Wideband High-Efficiency Rectifier for Wireless Power Transmission and Harvesting” Applications. IEEE Trans. Ind. Inform. 2019, 15, 3334–3342.

[74] Liu H, Zhang Y, Hu Y, Tse Z, Wu J. “Laser Power Transmission and Its Application in Laser-Powered Electrical Motor Drive: A Review.” Power Electron. Drives 2021, 6, 167–184.

[75] Kim D, Abu-Siada A, Sutinjo A. “State of the art literature review of WPT: Current limitations and solutions on ITP.” Electr. Power Syst. Res. 2018, 154, 493–502.

[76] Mohammed S.S, Ramasamy K, Shanmuganantham T. “Wireless Power Transmision-A next generation power transmission system.” Int. J. Comput. Appl. 2010, 1, 102–105. 2020, 9, 789.

[77] Badwey M.A, Abbasy N.H, Eldallal G.M. “An efficient design of LC-compensated hybrid wireless power transfer system for electric vehicle charging applications. Alex. Eng. J. 2022, 61, 6565–6580.

[78] Song S, Zhang W, Jin Z, Geng Q. “Analysis of S-S Resonance Compensation Circuit of Electric Vehicle Wireless Power Transfer System.” In Proceedings of the IEEE 4th

Conference on Energy Internet and Energy System Integration (EI2), Wuhan, China, 15, February 2020; pp. 619–622.

[79] Rakhymbay A, Bagheri M, Lu M. “A simulation study on four different compensation topologies in EV wireless charging.” In Proceedings of the International Conference on Sustainable Energy Engineering and Application (ICSEEA), Jakarata, Indonesia, 23–24 October 2017; pp. 66–73.

[80] Wang H.S, Cheng K.W.E, Hu J.F. “An Investigation of Compensation Networks for Three-coil Wireless Power Transfer.” In Proceedings of the 8th International Conference on Power Electronics Systems and Applications (PESA), Hong Kong, China, 7–10 December 2020; pp. 1–6.

[81] Geng Y, Sun, H, Yang Z, Li B, Lin F. “A High Efficiency Charging Strategy for a Supercapacitor Using a Wireless Power Transfer System Based on Inductor/Capacitor/ Capacitor (LCC) Compensation Topology”. Energies 2017, 10, 135.

[82] Kevin L. “Comparative Study of Different Coil Geometries for Wireless Power Transfer.” 2016. Available online.

[83] Murakami R, Inamori M, Morimoto M. “Effects of Q factor on wireless power transmission by magnetic resonant coupling.” In Proceedings of the IEEE International Conference on Power and Renewable Energy (ICPRE), Shanghai, China, 21–23 October 2016; pp. 139–143.

[84] Wen H, Zhang C. “Investigation on transmission efficiency for magnetic materials in a wireless power transfer system.” In Proceedings of the IEEE 11th International Conference on Power Electronics and Drive Systems, Sydney, Australia, 9–12 June 2015; pp. 249–253.

[85] Lu F, Zhang H, Mi C. “A Review on the Recent Development of Capacitive Wireless Power Transfer Technology.” Energies 2017, 10, 1752.

[86] Panchal C, Stegen S, Lu J. W. “Review of static and dynamic wireless electric vehicle charging system.” Eng. Sci. Technol. Int. J. 2018, 21, 922–937.

[87] Lecluyse C, Minnaert B, Kleemann M. “A Review of the Current State of Technology of Capacitive Wireless Power Transfer.” Energies 2021, 14, 5862.

[88] Al-Saadi M, Al-Bahrani L, Al-Qaisi M, Al-Chlaihawi S, Craciunescu A. “Capacitive Power Transfer for Wireless Batteries Charging.” Electroteh. Electron. Autom. 2018, 66, 40–51.

[89] Mou X, Sun H. “Wireless Power Transfer: Survey and Roadmap.” In Proceedings of the IEEE 81st Vehicular Technology Conference (VTC Spring), Glasgow, UK, 11–14 May 2015; pp. 1–5.

[90] Pham T.S, Nguyen T.D, Tung B.S, Khuyen B.X, Hoang T.T, Ngo Q.M, Hiep L.T.H Lam V.D. “Optimal frequency for magnetic resonant wireless power transfer in conducting medium.” Sci. Rep. 2021, 11, 18690.

[91] Tie S.F, Tan C.W. “A review of energy sources and energy management system in electric vehicles.” Renew Sustain. Energy Rev. 2013, 20, 82–102.

[92] Hannan M, Azidin F, Mohamed A. “Hybrid electric vehicles and their challenges: A review.” Renew Sustain. Energy Rev. 2014, 29, 135–150.

[93] Ahmad A, Alam M.S, Chabaan R. “A Comprehensive Review of Wireless Charging Technologies for Electric Vehicles. IEEE Trans. Transp. Electr. 2017, 4, 38–63.

[94] Zhang B, Carlson R.B, Smart J.G, Dufek E.J, Liaw B. “Challenges of future high power wireless power transfer for light-duty electric vehicles—Technology and risk management.” eTransportation 2019, 2, 100012.

[95] Hsieh Y.C, Lin Z.R, Chen M.C, Hsieh H.C, Liu Y.C, Chiu H.J. “High-Efficiency Wireless Power Transfer System for Electric Vehicle Applications.” IEEE Trans. Circuits Syst. II Express Briefs 2017, 64, 942–946.

[96] Sid Assawaworrarit, Xiaofang Yu, Shanhui Fan. “Robust wireless power transfer using a nonlinear parity–time-symmetric circuit” 2017 Macmillan Publishers Limited, part of Springer Nature. Vol.546. doi:10.1038/nature22404.

[97] Zhenya Dong, Zhipeng Li, Fengyuan Yang, Cheng-Wei Qiu, John S. Ho “Sensitive readout of implantable micro sensors.” Nature Electronics, vol 2, august 2019, 335–342, www.nature.com/natureelectronics.

[98] Joseph Schindler, Ang Li, Mei C. Zheng, F. M. Ellis, Tsampikos Kottos. “Experimental study of active LRC circuits with PT symmetries” physical review A84, DOI: 10.1103/PhysRevA.84.040101.

[99] Jiali Zhou, Bo Zhang, Wenxun Xiao, Dongyuan Qiu, Yanfeng Chen “Nonlinear parity-time-symmetric model for constant efficiency wireless power transfer: application to a drone-in-flight wireless charging platform” IEEE transactions on industrial electronics, vol 2, AUGUST 2019, 335–342, DOI 10.1109/TIE.2018.2864515.

[100] Yong Li , Jiefeng Hu, Feibin Chen, Zilin Li, Zhengyou He, Ruikun Mai. “Dual-phase-shift control scheme with current-stress and efficiency optimization for wireless power transfer systems” IEEE transactions on circuits and systems–i: regular papers, digital object identifier 10.1109/tcsi.2018.2817254.

[101] Giuseppe Buja, Manuele Bertoluzzo, Hemant K. Dashora “Lumped track layout design for dynamic wireless charging of electric vehicles” IEEE transactions on industrial electronics, 2015, DOI 10.1109/TIE.2016.2538738.

[102] Aqueel Ahmad, Mohammad Saad Alam, Rakan Chabaan “A comprehensive review of wireless charging technologies for electric vehicles” IEEE transactions on circuits and systems–i: regular papers, 2017, DOI 10.1109/TTE.2017.2771619, IEEE Transactions on Transportation Electrification.

[103] Chang-Gyun Kim, Dong-Hyun Seo, Jung-Sik You, Jong-Hu Park, Bo H. Cho “Design of a contactless battery charger for cellular phone” , pp 1238-1247,2017, Publisher Item Identifier S 0278-0046(01)10276-5, IEEE transactions on industrial electronics, vol. 48, no. 6, December 2001.

[104] Nadia Nazieha Nanda, Mohd Shahrin Abu Hanifah, Siti Hajar Yusoff, Nadirah Abdul Rahim, Mashkuri Yaacob, Nurul Fadzlin Hasbullah “In-depth perception of dynamic inductive wireless power transfer development: a review” , International Journal of Power Electronics and Drive Systems (IJPEDS) Vol. 12, No. 3, September 2021, pp. 1459~1471, ISSN: 2088-8694, DOI: 10.11591/ijpeds.v12.i3.pp1459-1471.

[105] Stanimir Valtchev, Beatriz Borges, Kostadin Brandisky, J. Ben Klaassens “Resonant contactless energy transfer with improved efficiency”, pp 685-699, 2009, , IEEE transactions on power electronics, vol. 24, no. 3, March 2009, Digital Object Identifier 10.1109/TPEL.2008.2003188.

[106] Karam Hwang, Jaeyong Cho, Dongwook Kim, Jaehyoung Park, Jong Hwa Kwon, Sang Il Kwak, Hyun Ho Park and Seungyoung Ahn “An autonomous coil alignment system for the dynamic wireless charging of electric vehicles to minimize lateral misalignment” , pp 1-20, Energies 2017, 10, 315, 2017, 10, 315; doi:10.3390/en10030315.