



DAFTAR PUSTAKA

- [1] K. N. Duc dan V. N. Duy, "Study on performance enhancement and emission reduction of used fuel-injected motorcycles using bi-fuel gasoline-LPG," *Energy Sustain. Dev.*, vol. 43, hal. 60–67, 2018.
- [2] G. Mitukiewicz, R. Dychto, dan J. Leyko, "Relationship between LPG fuel and gasoline injection duration for gasoline direct injection engines," *Fuel*, vol. 153, hal. 526–534, 2015.
- [3] B. Ashok, S. D. Ashok, dan C. R. Kumar, "Annual Reviews in Control A review on control system architecture of a SI engine management system," vol. 41, hal. 94–118, 2016.
- [4] T. O. Kukoyi, E. Muzenda, E. T. Akinlabi, A. Mashamba, C. Mbohwa, dan T. Mahlatsi, "Biogas Use as Fuel in Spark Ignition Engines," *IEEE Int. Conf. Ind. Eng. Eng. Manag.*, hal. 1064–1069, 2016.
- [5] C. Gong, F. Wei, X. Si, dan F. Liu, "Effects of injection timing of methanol and LPG proportion on cold start characteristics of SI methanol engine with LPG enriched port injection under cycle-by-cycle control," *Energy*, vol. 144, hal. 54–60, 2018.
- [6] P. S. Daingade dan S. D. Yadav, "Electronically Operated Fuel Supply System to Control Air Fuel Ratio of Biogas Engine," *2013 Int. Conf. Energy Effic. Technol. Sustain. ICEETS 2013*, hal. 740–743, 2013.
- [7] K. Okamura, "On the Development of a Control System for a Small Bio-Methane Gas Engine Generator," *Proc. 2016 IEEE Int. Conf. Mechatronics Autom.*, hal. 2623–2628, 2016.
- [8] M. Khair, M. H. Khair, R. A. Zafira, dan S. A. Anom, "Design a PID Controller for a Constant Speed of Combustion Engine," *Aust. J. Basic Appl. Sci.*, vol. 5, no. 12, hal. 1586–1593, 2011.
- [9] P. Lino dan G. Maione, *Design and simulation of fractional-order controllers of injection in CNG engines*, vol. 7, no. PART 1. IFAC, 2013.
- [10] H. Yu, Y. Liu, Y. Wang, M. Wang, dan X. Qin, "Speed Governing Controller of Gasoline Engine Based on Integral-Separation Fuzzy PID Control," *Proc. - 2016 3rd Int. Conf. Inf. Sci. Control Eng. ICISCE 2016*, hal. 1131–1135, 2016.
- [11] Y. Xiong, S. Yang, W. Gou, H. Jiang, dan K. Tan, "A Fuzzy Intelligent-Integration PID Idle Control Strategy for Gas Fueled SI Engine," *2013 Int. Conf. Comput. Sci. Appl.*, no. 3132021, hal. 357–360, 2013.
- [12] H. Feng, "Functional Testing System Based on LabVIEW for Gas-fueled Automobile Engine ECU," no. Icacc, hal. 357–361, 2011.
- [13] M. Sunwoo, H. Sim, dan K. Lee, "Design and Development of an ECU and its Air-Fuel Ratio Control Scheme for an LPG Engine with a Bypass Injector," *Main*, hal. 508–513, 1999.
- [14] N. V. L. Giang, D. Van Dzung, dan H. P. Son, "Experimental Research on Fuel Control System of Internal Combustion Engine Using Dual Fuel LPG Diesel," 2017.



- [15] X. Zhang, C. Sun, dan W. Wang, "Development of Electronic Control System of LPG Engine and Experimental Research," no. Iceoe, hal. 123–126, 2011.
- [16] B. Erkus, A. Sürmen, dan M. I. Karamangil, "A comparative study of carburation and injection fuel supply methods in an LPG-fuelled SI engine," *Fuel*, vol. 107, hal. 511–517, 2013.
- [17] M. Masi, "Experimental analysis on a spark ignition petrol engine fuelled with LPG (liquefied petroleum gas)," *Energy*, vol. 41, no. 1, hal. 252–260, 2012.
- [18] M. K. H, K. Aishwarya, R. Z. A. R, dan S. A. A, "Design a PID Controller For A Constant Speed of Combustion Engine," *Aust. J. Basic Appl. Sci.*, vol. 5, no. 12, hal. 1586–1593, 2011.
- [19] G. Taksale, A.S., Shahane, P. Vaidya, V., Deulkar V., Dronamraju, "Hardware in the loop for electronic speed limiter," *IEEE Int. Transp. Electrifi. Conf.*, 2016.
- [20] P. Duan dan K. Xie, "A Novel Gasoline Generators Speed Governing System Based on an Improved Fuzzy Adaptive PID Controller," *Proc. 8th World Congr. Intell. Control Autom.*, hal. 4855–4858, 2010.
- [21] K. Shuang, "A New Digital Electronic Governor Based on 32 bits DSP for a Gas Engine," hal. 0–5, 2006.
- [22] M. T. Muslim, H. Selamat, A. J. Alimin, N. Mohd Rohi, dan M. F. Hushim, "A review on retrofit fuel injection technology for small carburetted motorcycle engines towards lower fuel consumption and cleaner exhaust emission," *Renew. Sustain. Energy Rev.*, vol. 35, hal. 279–284, 2014.
- [23] D. Szpica, "Comparative analysis of the characteristics of a low-pressure gas-phase injector," *Flow Meas. Instrum.*, vol. 58, no. September, hal. 74–86, 2017.
- [24] R. R. Chladny, C. R. Koch, dan A. F. Lynch, "Modeling automotive gas-exchange solenoid valve actuators," *IEEE Trans. Magn.*, vol. 41, no. 3, hal. 1155–1162, 2005.
- [25] N. Hu, J. Yang, dan P. Zhou, "Sensitivity analysis of the dynamic response of an electronic fuel injector regarding fuel properties and operating conditions," *Appl. Therm. Eng.*, vol. 129, hal. 709–724, 2018.
- [26] N. Hu, J. Yang, P. Zhou, dan Y. Hu, "Study of the impact of structural parameters on the dynamic response of an electronic fuel injector," *Energy Convers. Manag.*, vol. 136, hal. 202–219, 2017.
- [27] H. Guo, W. Gao, X. Liu, dan Z. Zhang, "Study on measurement system of the dynamic performances for an electronic fuel injector," *2010 Int. Conf. Meas. Technol. Mechatronics Autom. ICMTMA 2010*, vol. 3, no. 3, hal. 608–611, 2010.
- [28] Y. Qian, S. Sun, D. Ju, X. Shan, dan X. Lu, "Review of the State-of-the-art of Biogas Combustion Mechanisms and Applications in Internal Combustion Engines," *Renew. Sustain. Energy Rev.*, vol. 69, no. November 2016, hal. 50–58, 2017.
- [29] K. J. Morganti, T. M. Foong, M. J. Brear, G. Da Silva, Y. Yang, dan F. L. Dryer, "The research and motor octane numbers of Liquefied Petroleum Gas (LPG)," *Fuel*, vol. 108, hal. 797–811, 2013.



- [30] P. Yiqiang, G. E. Xiaocheng, dan Z. O. U. Bowen, "An Experimental Study of CNG / Gasoline Bi-Fuel Vehicle with One-ECU Control," hal. 7027–7033, 2014.
- [31] S. S. V Rajagopalan, S. Midlam-mohler, S. Yurkovich, K. P. Dudek, Y. G. Guezennec, dan J. Meyer, "Control Engineering Practice A control design and calibration reduction methodology for AFR control in gasoline engines," *Control Eng. Pract.*, vol. 27, hal. 42–53, 2014.
- [32] S. Babatunde, "Development And Testing Of Biogas-Petrol Blend As An Alternative Fuel For Spark Ignition Engine," *Int. J. Sci. Technol. Res.*, vol. 4, no. 09, hal. 179–186, 2015.
- [33] N. H. Othman *et al.*, "Throttle Actuator Controller for Automotive Applications (Simulation Study)," vol. 2, hal. 51–55, 2015.
- [34] C. W. Su, S. J. Ye, C. Y. Wei, dan M. Z. Xie, "The design and study on the mixture control system of the biogas-gasoline dual-fuel engine," *ICMREE2011 - Proc. 2011 Int. Conf. Mater. Renew. Energy Environ.*, vol. 1, hal. 517–520, 2011.
- [35] D. Ramasamy *et al.*, "Engine Performance, Exhaust Emission And Combustion Analysis of A 4-Stroke Spark Ignited Engine Using Dual Fuel Injection," *Fuel*, vol. 207, hal. 719–728, 2017.
- [36] D. Szpica, "Investigating fuel dosage non-repeatability of low-pressure gas-phase injectors," *Flow Meas. Instrum.*, vol. 59, no. December 2017, hal. 147–156, 2018.
- [37] W. O. Abdullah, "How Does a Four-Stroke Engine Work," 2018. [Daring]. Tersedia pada: <http://www.bikesrepublic.com/featured/four-stroke-engine-work/>. [Diakses: 22-Jul-2018].
- [38] Woodbank Communications Ltd, "Electrical Machines - Generators (Description and Applications)," 2005. [Daring]. Tersedia pada: <https://www.mpoweruk.com/generators.htm>. [Diakses: 22-Jul-2018].
- [39] Alternative Energy Tutorials, "Synchronous Generator," 2014. [Daring]. Tersedia pada: <http://www.alternative-energy-tutorials.com/wind-energy/synchronous-generator.html>.
- [40] G. Laliberte, "A Comparison of Generator Excitation Systems," 2014.
- [41] Pertamina, "Komposisi Elpiji Sesuai Spesifikasi & Standar Keselamatan," *News*, 2010. [Daring]. Tersedia pada: <http://www.bumn.go.id/pertamina/berita/471/komposisi.elpiji.sesuai.%0D%09spesifikasi.standar.keselamatan>. [Diakses: 07-Apr-2018].
- [42] Supono, "MENGENAL LEBIH DEKAT LPG (LIQUIFIED PETROLEUM GAS) SEBAGAI BAHAN BAKAR UNTUK KOMPOR GAS," 2014. [Daring]. Tersedia pada: <http://www.vedcmalang.com/pppptkboemlg/index.php/menuutama/departemen-bangunan-30/1131-supono1>.
- [43] x-engineer.org, "Air-fuel ratio, lambda and engine performance," 2018. [Daring]. Tersedia pada: <https://x-engineer.org/automotive-engineering/internal-combustion-engines/performance/air-fuel-ratio-lambda-engine-performance/>. [Diakses: 23-Jul-2018].



- [44] V. Nayak, G. S. Rashmi, P. Chitragar, dan P. Mohanan, “Combustion Characteristics and Cyclic Variation of a LPG Fuelled MPFI Four Cylinder Gasoline Engine,” *Energy Procedia*, vol. 90, no. December 2015, hal. 470–480, 2015.
- [45] S. M. Aceves, J. R. Smith, C. K. Westbrook, dan W. J. Pitz, “Compression Ratio Effect on Methane HCCI Combustion,” *J. Eng. Gas Turbines Power*, vol. 121, no. 3, hal. 569, 1999.
- [46] E. Porpatham, A. Ramesh, dan B. Nagalingam, “Effect of Compression Ratio on The Performance And Combustion of A Biogas Fuelled Spark Ignition Engine,” *Energy Convers. Manag.*, vol. 76, hal. 463–471, 2013.
- [47] B. Van Ga, T. Van Nam, T. Thanh, dan H. Tung, “A Simulation of Effects of Compression Ratios on the Combustion in Engines Fueled With Biogas with Variable CO₂ Concentrations,” *J. Eng. Res. Appl.*, vol. 3, no. 5, hal. 516–523, 2013.
- [48] M. A. Ceviz, A. Kaleli, dan E. Güner, “Controlling LPG Temperature For SI Engine Applications,” *Appl. Therm. Eng.*, vol. 82, hal. 298–305, 2015.
- [49] B. A. Paden, S. T. Snyder, B. E. Paden, dan M. R. Ricci, “Modeling and Control of an Electromagnetic Variable Valve Actuation System,” vol. 20, no. 6, hal. 2654–2665, 2015.
- [50] Y. Kim, N. Kawahara, K. Tsuboi, dan E. Tomita, “Combustion characteristics and NOX emissions of biogas fuels with various CO₂ contents in a micro co-generation spark-ignition engine,” *Appl. Energy*, vol. 182, no. X, hal. 539–547, 2016.
- [51] AerMech, “ECU (Engine Control Unit) Cars, ECM, Parts, Functioning,” 2014. [Daring]. Tersedia pada: <http://aermech.com/ecu-engine-control-unit-carsecmpartsfunctioning/>. [Diakses: 23-Jul-2018].
- [52] STMicroelectronics, “Datasheet STM32F103x8,” 2015. .
- [53] Zeming, “ZMPT101B(ZMPT107) voltage transformer operating guide,” hal. 2–5, 2013.
- [54] Electronics Tutorials, “Op-amp Comparator.” [Daring]. Tersedia pada: <https://www.electronics-tutorials.ws/opamp/op-amp-comparator.html>. [Diakses: 07-Apr-2018].
- [55] M. Ahsan, “Servo Motor Tutorial For Beginners,” 2018. [Daring]. Tersedia pada: <https://www.electronicshobby.com/2018/06/servo-motor-tutorial-for-beginners.html>. [Diakses: 31-Jul-2018].
- [56] “Turnigy™ TGY-9018MG MG Servo,” 2012. [Daring]. Tersedia pada: <http://rcsearch.info/hobbyking/i17322/>. [Diakses: 31-Jul-2018].
- [57] Infineon, “IR2110 - HIGH AND LOW SIDE DRIVER,” 2005. [Daring]. Tersedia pada: <https://www.infineon.com/dgdl/ir2110.pdf?fileId=5546d462533600a4015355c80333167e>. [Diakses: 31-Jul-2018].
- [58] Infineon, “IRFZ44N - HEXFET® Power MOSFET,” 2001. [Daring]. Tersedia pada: <https://www.infineon.com/dgdl/irfz44n.pdf?fileId=5546d462533600a40153563b3575220b>. [Diakses: 31-Jul-2018].



- [59] Electronics Tutorials, “MOSFET as a Switch,” 2014. [Daring]. Tersedia pada: https://www.electronics-tutorials.ws/transistor/tran_7.html. [Diakses: 31-Jul-2018].
- [60] Engineering360, “Fuel Injectors Information.” [Daring]. Tersedia pada: https://www.globalspec.com/learnmore/specialized_industrial_products/transportation_products/fuel_injectors. [Diakses: 31-Jul-2018].
- [61] Auto Gas, “Gas injectors.” [Daring]. Tersedia pada: <http://www.bgauto-gas.com/en/product/1/gas-injectors-4-cyl-3.html>. [Diakses: 31-Jul-2018].
- [62] K. Ogata, *Modern Control Engineering*, 5th ed. New Jersey: Prentice Hall, 2010.
- [63] K. Ogata, *Modern Control Engineering*, Fifth. Prentice Hall, 2009.
- [64] M. E. dan S. D. M. R. Indonesia, “Aturan Jaringan Sistem Tenaga Listrik Jawa-Madura-Bali,” *Peratur. MENTERI tahun 2007*, vol. 3, 2007.
- [65] A. T. Ergenc dan D. Ö. Koca, “PLC controlled single cylinder diesel-LPG engine,” *Fuel*, vol. 130, hal. 273–278, 2014.