



DAFTAR PUSTAKA

- Ahmed, N. dan Chen, M., 2018, Sliding mode *control* for *quadrotor* with *disturbance* observer, *Advances in Mechanical Engineering*, [Online] 10 (7), 1–16, tersedia di DOI:10.1177/1687814018782330.
- Akhzan, S. dan Dharmawan, A., 2015, Sistem Kendali PID pada Modus Transisi Terbang Tiltrotor 1, *Indonesian Journal of Electronics and Instrumentation Systems (IJEIS)*, 5 (2), 199–210,
- Ammar, N. Ben, Bouallègue, S. dan Haggège, J., 2018, *Fuzzy Gains-Scheduling of an Integral Sliding Mode Controller* for a *quadrotor Unmanned Aerial Vehicle*, *International Journal of Advanced Computer Science and Applications*, [Online] 9 (3), 132–141, tersedia di DOI:10.14569/IJACSA.2018.090320.
- Amoozgar, M.H., Chamseddine, A. dan Zhang, Y., 2012, Fault-tolerant *fuzzy gain-scheduled* PID for a *quadrotor* helicopter testbed in the *presence of* actuator faults, *IFAC Proceedings Volumes (IFAC-PapersOnline)*, [Online], 2012 IFAC., hlm. 282–287, tersedia di DOI:10.3182/20120328-3-it-3014.00048.
- Anjali, B.S., Vivek, A. dan Nandagopal, J.L., 2016, Simulation and Analysis of *Integral LQR Controller* for Inner Control Loop Design of a *Fixed Wing Micro Aerial Vehicle (MAV)*, *Procedia Technology*, [Online], 2016 The Author(s), hlm. 76–83, tersedia di DOI:10.1016/j.protcy.2016.08.083.
- Ashari, A., Dharmawan, A., Fadhli, H.A. dan Handayani, A.M., 2019, *Flight Trajectory Control System* on *Fixed Wing UAV* using *Linear Quadratic Regulator*, *International Journal of Engineering Research and*, [Online] V8 (08), 345–352, tersedia di DOI:10.17577/ijertv8is080135.
- Benkhoud, K. dan Bouallègue, S., 2017, Dynamics modeling and advanced metaheuristics based LQG *controller* design for a *Quad Tilt Wing UAV*, *International Journal of Dynamics and Control*, [Online] tersedia di DOI:10.1007/s40435-017-0325-7.
- Benkhoud, K. dan Bouallegue, S., 2016a, Model Predictive *Control* Design for a convertible *Quad Tilt-Wing UAV*, *2016 4th International Conference on Control Engineering dan Information Technology (CEIT)*, [Online] 1–6, tersedia di DOI:10.1109/CEIT.2016.7929042.
- Benkhoud, K. dan Bouallegue, S., 2016b, Modeling and LQG *Controller* Design for a *Quad Tilt-Wing UAV*, *3rd International Conference on Automation, Control Engineering and Computer Science (ACECS); Proceedings of Engineering dan Technology (PET)*, 28 Juni 2016 hlm. 198–204,
- Benkhoud, K., Bouallegue, S. dan Ayadi, M., 2017, Rapid *control* prototyping of a *quad-tilt-wing Unmanned Aerial Vehicle*, *2017 International Conference on Control, Automation and Diagnosis (ICCAD)*, [Online], Januari 2017 IEEE., hlm. 423–428, tersedia di DOI:10.1109/CADIAG.2017.8075696.
- Dezhi, T. dan Xiaojun, T., 2017, Design of UAV *attitude controller* based on improved *robust LQR control*, *Proceedings - 2017 32nd Youth Academic Annual Conference of Chinese Association of Automation, YAC 2017*, [Online] 1004–1009, tersedia di DOI:10.1109/YAC.2017.7967557.



- Dharmawan, A. dan Arismawan, I.F., 2017, Sistem Kendali Penerbangan *Quadrotor* pada Keadaan Melayang dengan Metode LQR dan Kalman Filter, *IJEIS (Indonesian Journal of Electronics and Instrumentation Systems)*, [Online] 7 (1), 49, tersedia di DOI:10.22146/ijeis.15262.
- Dharmawan, A., Ashari, A. dan Putra, A.E., 2017, Mathematical Modelling of Translation and Rotation Movement in *Quad* Tiltrotor, *International Journal on Advanced Science, Engineering and Information Technology*, [Online] 7 (3), 1104, tersedia di DOI:10.18517/ijaseit.7.3.2171.
- Dharmawan, A., Ashari, A. dan Putra, A.E., 2016, *Quadrotor flight stability system with Routh stability and Lyapunov analysis*, *AIP Conf. Proc.*, [Online], 2016 hlm. 170007, tersedia di DOI:10.1063/1.4958609.
- Dharmawan, A., Ashari, A. dan Putra, A.E., 2018, Translation Movement Stability Control of *Quad* Tiltrotor Using LQR and LQG, *International Journal of Intelligent Systems and Applications*, [Online] 10 (3), 10–21, tersedia di DOI:10.5815/ijisa.2018.03.02.
- Dharmawan, A. dan Pramudita, S., 2015, Penerapan Sistem Kendali PID untuk Kestabilan Twin- Tiltrotor dengan Metode DCM, *Indonesian Journal of Electronics and Instrumentation Systems (IJEIS)*, 5 (2), 145–154,
- Euteneuer, E.A. dan Papageorgiou, G., 2011, UAS insertion into commercial airspace: Europe and US standards perspective, *IEEE/AIAA 30th Digital Avionics Systems Conference*, [Online], Oktober 2011 IEEE., hlm. 5C5-1-5C5-12, tersedia di DOI:10.1109/DASC.2011.6096084.
- Fessi, R. dan Bouallègue, S., 2016, Modeling and Optimal LQG Controller Design for a *Quadrotor* UAV, *3rd International Conference on Automation, Control, Engineering and Computer Science*, 264–270,
- Govdéli, Y., Tran, A.T. dan Kayacan, E., 2019, *Multiple Modeling and Fuzzy Switching Control of Fixed-Wing VTOL Tilt-Rotor UAV*, Springer International Publishing., [Online]. tersedia di DOI:10.1007/978-3-030-21920-8_25.
- Gu, H., Lyu, X., Li, Z., Shen, S. dan Zhang, F., 2017, Development and Experimental Verification of a Hybrid Vertical Take-Off and Landing (VTOL) Unmanned Aerial Vehicle (UAV), *2017 International Conference on Unmanned Aircraft Systems (ICUAS)*, [Online], 2017 hlm. tersedia di DOI:10.1109/ICUAS.2017.7991420.
- Hancer, C., Oner, K.T., Sirimoglu, E., Cetinsoy, E. dan Unel, M., 2010, Robust Hovering Control of a *Quad Tilt-Wing* UAV, *IECON 2010 - 36th Annual Conference on IEEE Industrial Electronics Society*, [Online] 1615–1620, tersedia di DOI:10.1109/IECON.2010.5675441.
- Hawari, Q., Kim, T., Ward, C. dan Fleming, J., 2023, LQG control for hydrodynamic compensation on large floating wind turbines, *Renewable Energy*, [Online] 2051–9, tersedia di DOI:10.1016/j.renene.2023.01.067.
- Kayacan, E., Khanesar, M.A., Rubio-Hervas, J. dan Reyhanoglu, M., 2017, Learning Control of Fixed-Wing Unmanned Aerial Vehicles Using Fuzzy Neural Networks, *International Journal of Aerospace Engineering*, [Online] 20171–12, tersedia di DOI:10.1155/2017/5402809.



- Khoud, K. Ben, Bouallègue, S. dan Ayadi, M., 2018, *Design and co-simulation of a fuzzy gain-scheduled PID controller* based on particle swarm optimization algorithms for a *quad tilt wing Unmanned Aerial Vehicle*, *Transactions of the Institute of Measurement and Control*, [Online] 40 (14), 3933–3952, tersedia di DOI:10.1177/0142331217740947.
- Kreyszig, E., Kreyszig, H. dan Norminton, E.J., 2011, *Advanced Engineering Mathematics*, 10th edisi, John Wiley and Sons, Inc., USA.
- Kusuma, P.A. dan Dharmawan, A., 2017, Pengendalian Kestabilan Ketinggian pada Penerbangan *Quadrotor* dengan Metode PID Fuzzy, *IJEIS (Indonesian Journal of Electronics and Instrumentation Systems)*, [Online] 7 (1), 61, tersedia di DOI:10.22146/ijeis.15456.
- Li, A., Yang, L., Zhang, J. dan He, C., 2015, *LQR and Fuzzy Gain-Scheduling based attitude controller* for RLV within large operating envelope, *Proceedings - 2014 IEEE International Conference on Control Science and Systems Engineering, CCSSE 2014*, [Online], 2015 hlm. 51–56, tersedia di DOI:10.1109/CCSSE.2014.7224507.
- Lindqvist, A., Fresk, E. dan Nikolakopoulos, G., 2015, *Optimal Design and Modeling of a Tilt Wing Aircraft*, *2015 23rd Mediterranean Conference on Control and Automation (MED)*, [Online] 701–708, tersedia di DOI:10.1109/MED.2015.7158828.
- Markin, S., 2010, *Multiple Simultaneous Specification Attitude Control of a Mini Flying-Wing Unmanned Aerial Vehicle*, *Tesis*, University of Toronto.
- Masuda, K. dan Uchiyama, K., 2019, *Flight Controller Design Using μ -synthesis for Quad Tilt-Wing UAV*, *AIAA Scitech 2019 Forum*, [Online], 2019 hlm. 1–25, tersedia di DOI:10.2514/6.2019-1918.
- Masuda, K. dan Uchiyama, K., 2018, *Robust Control Design for Quad Tilt-Wing UAV*, *aerospace*, [Online] 5 (17), tersedia di DOI:10.3390/aerospace5010017.
- Mathisen, S.H., Fossen, T.I. dan Johansen, T.A., 2015, *Non-linear model predictive control for guidance of a fixed-wing UAV in precision deep stall landing*, *2015 International Conference on Unmanned Aircraft Systems, ICUAS 2015*, [Online], 2015 hlm. 356–365, tersedia di DOI:10.1109/ICUAS.2015.7152310.
- Melkou, L., Hamerlain, M. dan Rezoug, A., 2018, *Fixed-Wing UAV Attitude and Altitude Control via Adaptive Second-Order Sliding Mode*, *Arabian Journal for Science and Engineering*, [Online] 43 (12), 6837–6848, tersedia di DOI:10.1007/s13369-017-2881-8.
- Mikami, T. dan Uchiyana, K., 2015, *Design of Flight Control System for Quad Tilt-Wing UAV*, *2015 International Conference on Unmanned Aircraft Systems (ICUAS)*, [Online] 2 (c), 801–805, tersedia di DOI:10.1109/ICUAS.2015.7152364.
- Mobarez, E.N., Sarhan, A. dan Mohamed, A.M., 2019, *Modeling of fixed wing UAV and design of multivariable flight controller using PID tuned by local optimal control*, *IOP Conference Series: Materials Science and Engineering*, [Online], 2019 hlm. tersedia di DOI:10.1088/1757-899X/610/1/012016.
- Muthmainnah, N.F., Al Tahtawi, A.R. dan Baisrum, B., 2023, *Voltage Stability Control of Boost Converter Using Linear Quadratic Integrator*, *Journal of*



- Fuzzy Systems and Control*, [Online] 1 (2), 39–43, tersedia di DOI:10.59247/jfsc.v1i2.41.
- Nonami, K., Kendoul, F., Suzuki, S., Wang, W. dan Nakazawa, D., 2010, *Autonomous Flying Robots*, Springer Japan, Tokyo., [Online]. tersedia di DOI:10.1007/978-4-431-53856-1.
- Ogata, K., 2010a, *Modern Control Engineering*, 5th edisi, Prentice-Hall, New Jersey, USA.
- Ogata, K., 2010b, *Modern Control Engineering*, 5th edisi, Prentice-Hall, New Jersey, USA.
- Prayitno, A., Indrawati, V. dan Trusulaw, I.I., 2018, *Fuzzy gain scheduling PID control for position of the AR.Drone*, *International Journal of Electrical and Computer Engineering*, [Online] 8 (4), 1939–1946, tersedia di DOI:10.11591/ijece.v8i4.pp1939-1946.
- Priyambodo, T.K., Dharmawan, A., Dhewa, O.A. dan Putro, N.A.S., 2016a, Design of Flight Control System for Flying Wing UAV Based on Pitch and Roll Rotation, *International Journal of Engineering Research and Management (IJERM)*, 3 (9), 51–54,
- Priyambodo, T.K., Dharmawan, A., Dhewa, O.A. dan Putro, N.A.S., 2016b, Optimizing control based on fine tune PID using ant colony logic for vertical moving control of UAV system, *AIP Conference Proceedings*, [Online] 1755 (July), tersedia di DOI:10.1063/1.4958613.
- Priyambodo, T.K., Dharmawan, A. dan Putra, A.E., 2016c, PID self tuning control based on Mamdani fuzzy logic control for quadrotor stabilization, *AIP Conf. Proc.*, [Online], 2016 hlm. 020013, tersedia di DOI:10.1063/1.4940261.
- Saeed, A., Bhatti, A.I. dan Malik, F.M., 2023, LMIs-Based LPV Control of Quadrotor with Time-Varying Payload, *Applied Sciences (Switzerland)*, [Online] 13 (11), tersedia di DOI:10.3390/app13116553.
- Saleem, O., Tanveer, A. dan Iqbal, J., 2025, Adaptive Reconfigurable Learning Algorithm for Robust Optimal Longitudinal Motion Control of Unmanned Aerial Vehicles, *Algorithms*, [Online] 18 (4), 180, tersedia di DOI:10.3390/a18040180.
- Sato, M., Muraoka, K. dan Agency, E., 2015, Flight Controller Design and Demonstration of Quad-Tilt-Wing Unmanned Aerial Vehicle, *JOURNAL OF GUIDANCE, CONTROL, AND DYNAMICS*, [Online] 38 (6), 1–12, tersedia di DOI:10.2514/1.G000263.
- Small, E., Fresk, E., Andrikopoulos, G. dan Nikolakopoulos, G., 2016, Modelling and Control of a Tilt-Wing Unmanned Aerial Vehicle, *2016 24th Mediterranean Conference on Control and Automation (MED)*, [Online], 2016 IEEE., hlm. 1254–1259, tersedia di DOI:10.1109/MED.2016.7536050.
- Starlino, 2009, A Guide to Using IMU (*Accelerometer and Gyroscope Devices*) in Embedded Applications,
- Sudha, G. dan Deepa, S.N., 2016, Optimization for PID control parameters on pitch control of aircraft dynamics based on tuning methods, *Applied Mathematics and Information Sciences*, [Online] 10 (1), 343–350, tersedia di DOI:10.18576/amis/100136.



- Suzuki, S., Zhijia, R., Horita, Y. dan Nonami, K., 2019, *Design and Attitude Control of Quad Rotors QTW-UAV with Tilt Wing Mechanism **, [Online] 4 (3), 2012–2019, tersedia di DOI:10.1299/jsdd.4.416.
- Tran, A.T., Sakamoto, N., Sato, M. dan Muraoka, K., 2017, *Control Augmentation System Design for Quad-Tilt-Wing Unmanned Aerial Vehicle via Robust Output Regulation Method*, *IEEE Transactions on Aerospace and Electronic Systems*, [Online] 53 (1), 357–369, tersedia di DOI:10.1109/TAES.2017.2650618.
- Tunik, A.A. dan Nadsadna, O.I., 2018, *Robust digital gain-scheduling control of the UAV altitude*, *2017 IEEE 4th International Conference on Actual Problems of Unmanned Aerial Vehicles Developments, APUAVD 2017 - Proceedings*, [Online], 2018 hlm. 175–179, tersedia di DOI:10.1109/APUAVD.2017.8308803.
- Yildiz, Y., Unel, M. dan Demirel, A.E., 2015a, *Adaptive nonlinear hierarchical control of a quad tilt-wing UAV*, *2015 European Control Conference (ECC)*, [Online], Juli 2015 IEEE., hlm. 3623–3628, tersedia di DOI:10.1109/ECC.2015.7331093.
- Yildiz, Y., Unel, M. dan Demirel, A.E., 2015b, *Adaptive Nonlinear Hierarchical Control of a Quad Tilt-Wing UAV*, 3623–3628,
- Yildiz, Y., Unel, M. dan Demirel, A.E., 2017, *Nonlinear hierarchical control of a quad tilt-wing UAV: An adaptive control approach*, *International Journal of Adaptive Control and Signal Processing*, [Online] 31 (9), 1245–1264, tersedia di DOI:10.1002/acs.2759.
- Zakaria, A.B. dan Dharmawan, A., 2017, *Sistem Kendali Penghindar Rintangan Pada Quadrotor Menggunakan Konsep Linear Quadratic*, *IJEIS (Indonesian Journal of Electronics and Instrumentation Systems)*, [Online] 7 (2), 219, tersedia di DOI:10.22146/ijeis.25503.
- Zhang, X., Xu, W., Shi, Y., Cai, M. dan Li, F., 2017, *Study on the Effect of Tilting-Rotor Structure on the Lift of Small Tilt*, *2017 2nd International Conference on Advanced Robotics and Mechatronics (ICARM)*, [Online], 2017 hlm. 380–385, tersedia di DOI:10.1109/ICARM.2017.8273192.
- Zhang, Y., Deng, Y., Liu, Y. dan Wang, L., 2019a, *Dynamics modeling and stability analysis of tilt wing Unmanned Aerial Vehicle during transition*, *Computers, Materials and Continua*, [Online] 59 (3), 833–851, tersedia di DOI:10.32604/cmc.2019.04078.
- Zhang, Y., Deng, Y., Liu, Y. dan Wang, L., 2019b, *Dynamics Modeling and Stability Analysis of Tilt Wing Unmanned Aerial Vehicle During Transition*, *Computers, Materials dan Continua*, [Online] 59 (3), 833–851, tersedia di DOI:10.32604/cmc.2019.04078.