DAFTAR PUSTAKA

Abast, V. F., Sumarauw, H. J. R., & Kewas, J. C. (2023). Analisa Suhu Permukaan Terhadap Daya Output Solar Cell 10 wp Tipe Monocrystalline. *Actuator Jurnal Teknik Mesin*, *3*(2), 1–8.

Abdullah, Putri, M., Syahruddin, M., Silitonga, A. S., Dharma, S., Jumaat, A. K., Ridzuan, A. R., & Aritonang, G. (2024). The Utilization of a Combination of Heatsink Material And A Water Cooler Block As An Effort To Reduce Heat From Solar Panels. *International Journal of Applied Research and Sustainable Sciences*, *2*(5), 339–352.

Agyekum, E. B., PraveenKumar, S., Alwan, N. T., Velkin, V. I., & Shcheklein, S. E. (2021). Effect of dual surface cooling of solar photovoltaic panel on the efficiency of the module: experimental investigation. *Heliyon*, *7*(9), e07920. https://doi.org/10.1016/j.heliyon.2021.e07920

Al-Ezzi, A. S., & Ansari, M. N. M. (2022). Photovoltaic Solar Cells: A Review. *Applied System Innovation*, *5*(4), 1–17. https://doi.org/10.3390/asi5040067

Al–bashir, A., Al-Dweri, M., Al–ghandoor, A., Hammad, B., & Al–kouz, W. (2020). Analysis of effects of solar irradiance, cell temperature and wind speed on photovoltaic systems performance. *International Journal of Energy Economics and Policy*, *10*(1), 353–359. https://doi.org/10.32479/ijeep.8591

Amaral, H. D. F., Santosoa, A. H., Harijantoa, P. S., & Wibisonoa, K. A. (2023). Monitoring Sun Tracking Solar Panel Statis Secara Real-Time Berbasis Website. *Elposys: Jurnal Sistem Kelistrikan*, *10*(3), 178–182. https://doi.org/10.33795/elposys.v10i3.4418

Ardiyanto, E. D., Rachmanto, R. A., Arifin, Z., Himawanto, D. A., & Widodo, P. J. (2024). *Optimalisasi Daya Fotovoltaik dengan Reflektor Ganda*. Mega Press Nusantara.

Arifin, Z., Suyitno, S., Tjahjana, D. D. D. P., Juwana, W. E., Putra, M. R. A., & Prabowo, A. R. (2020). The effect of heat sink properties on solar cell cooling systems. *Applied Sciences*, *10*(21), 1–16.

Bayod-Rújula, A. A. (2019). Solar photovoltaics (PV). In *Solar Hydrogen Production: Processes, Systems and Technologies*. Elsevier Inc. https://doi.org/10.1016/B978-0-12-814853-2.00008-4

Bjørk, R., & Nielsen, K. K. (2015). The performance of a combined solar photovoltaic (PV) and thermoelectric generator (TEG) system. *Solar Energy*, *120*, 187–194. https://doi.org/10.1016/j.solener.2015.07.035

Brinks, P., & Huijben, M. (2015). Thermoelectric oxides. In *Epitaxial Growth of Complex Metal Oxides*. Elsevier Ltd. https://doi.org/10.1016/B978-1-78242-245-7.00014-2

Cholis, Sara, I. D., & Away, Y. (2016). Perancangan Alat Pencatat Data Kurva Karakteristik Arus dan Tegangan (I-V) Modul Surya. *CIRCUIT: Jurnal Ilmiah Pendidikan Teknik Elektro*, *2*(1), 215–230.

Denk, T. M. S., Pandria, T. M. A., & Firnanda, A. (2022). Identifikasi Pengaruh Penggunaan Heatsink Terhadap Keluaran Modul Surya. *Jurnal Optimalisasi*, *8*(22), 200–208.

Dermawan, A. B., & Apriaskar, E. (2020). Lampu Penerangan Jalan Otomatis Berdasarkan Intensitas Cahaya dan Keberadaan Kabut atau Asap. *Jurnal Pendidikan Teknik Elektro Undiksha*, *9*(1), 56–63.

Dewi, R. P., Rahmat, S., & Musyafiq, A. A. (2022). Implementasi Sistem Pendingin Panel Surya Untuk Mempertahankan Suhu Permukaan Panel. *Prosiding Seminar Nasional Wijayakusuma National Conference*, *3*(1), 75–82.

Dewi, R. P., Rahmat, S., & Purnata, H. (2023). Sistem Pendingin Panel Surya Otomatis Untuk Mengkatkan Daya Keluaran Panel Surya. *Simetris: Jurnal Teknik Mesin, Elektro Dan Ilmu Komputer*, *14*(1), 1–10.

Dizaji, H. S., Pourhedayat, S., Anqi, A. E., Aldawi, F., & Ponnore, J. J. (2024). Enhanced thermoelectric waste heat recovery power generation through an innovative energy-free cooling strategy for the heatsink side. *Journal of Power Sources*, *624*, 235614.

Durgam, S., Ghodake, B., & Mohite, S. (2022). Numerical Investigation on Heat Sink Material for Temperature Control of Electronics. *Journal of Physics: Conference Series*, *2312*(1).

Eickhoff, J. (2022). *A Combined Data and Power Management Infrastructure*. Springer Berlin Heidelberg.

El Mliles, M., Amiry, H., El Kouari, Y., & Hajjaji, A. (2023). Evaluation of parameters influencing the performance of photovoltaic-thermoelectric (PV-TE) hybrid system. *Energy Harvesting and Systems*, *10*(1), 15–23. https://doi.org/10.1515/ehs-2022-0015

Fahad, E. (2021). *Heat Sink, Types of Heat Sink and Design of Heat Sink*. Electronic Clinic. https://www.electroniclinic.com/heat-sink-types-of-heat-sink-and-design-of-heat-sink/#google_vignette

Faisal, A., & Awaludin, M. (2022). Tinjauan Potensi dan Kebijakan Energi Surya di Indonesia. *Jurnal Engine: Energi, Manufaktur, Dan Material*, *6*(1), 43–52.

Fajar, F. N., Priramadhi, R. A., & Darlis, D. (2024). Implementasi Modul Lora (Long Range) Dan Micro Sd Untuk Alat Stasiun Cuaca Portabel. *E-Proceeding of Engineering*, *11*(4), 2546–2548.

Fernandes, P., Gaspar, P. D., & Silva, P. D. (2023). Peltier Cell Integration in

Packaging Design for Minimizing Energy Consumption and Temperature Variation during Refrigerated Transport. *Designs*, *7*(4), 7040088. https://doi.org/10.3390/designs7040088

Fikri, M. A., Hartama, D., Kirana, I. O., Gunawan, I., & Nasution, Z. M. (2022). Kotak Sampah Pintar Menggunakan Sensor Ultrasonik Berbasis Mikrokontroller Arduino Uno pada Kantor Seketariat DPRD Kota Pematangsiantar. *Jurnal Ilmu Komputer Dan Informatika*, *2*(2), 67–76. https://doi.org/10.54082/jiki.24

Guan, B., Qin, Y., & Guo, M. (2022). Design of burner performance optimization system based on laser machining. *Thermal Science*, *26*(3A), 2397–2408.

Hidayati, U., Haryanto, I., & Ismail, R. (2021). Rancang Bangun Pendeteksi Kecepatan Angin Berbasis Platform IoT Blynk. *Rotasi*, *23*(4), 44–49.

Hudișteanu, V. S., Cherecheș, N. C., Țurcanu, F. E., Hudișteanu, I., & Romila, C. (2024). Impact of Temperature on the Efficiency of Monocrystalline and Polycrystalline Photovoltaic Panels: A Comprehensive Experimental Analysis for Sustainable Energy Solutions. *Sustainability*, *16*(23), 1–20.

Indira, S. S., Vaithilingam, C. A., Chong, K.-K., Saidur, R., Faizal, M., Abubakar, S., & Paiman, S. (2020). A review on various configurations of hybrid concentrator photovoltaic and thermoelectric generator system. *Solar Energy*, *201*(2), 122–148. https://doi.org/10.1016/j.solener.2020.02.090

Indrasari, W., Habiburosid, & Fahdiran, R. (2019). Characterization of hybrid solar panel prototype using PV-TEG module. *AIP Conference Proceedings*, *2169*, 050005–1. https://doi.org/10.1063/1.5132678

Isyanto, H., Budiyanto, Fadliondi, & Chamdareno, P. G. (2017). Pendingin untuk peningkatan daya keluaran panel surya. *Seminar Nasional Sains Dan Teknologi 2017*, *November*, 1–2.

Izam, N. S. M. N., Itam, Z., Sing, W. L., & Syamsir, A. (2022). Sustainable Development Perspectives of Solar Energy Technologies with Focus on Solar Photovoltaic—A Review. *Energies*, *15*(8), 1–15.

Johnston, E., Szabo, P. S. B., & Bennett, N. S. (2021). Cooling silicon photovoltaic cells using finned heat sinks and the effect of inclination angle. *Thermal Science and Engineering Progress*, *23*(March), 100902.

Joo, Y., & Kim, S. J. (2015). Comparison of thermal performance between plate-fin and pin-fin heat sinks in natural convection. *International Journal of Heat and Mass Transfer*, *83*, 345–356.

Jouhara, H., Żabnieńska-Góra, A., Khordehgah, N., Doraghi, Q., Ahmad, L., Norman, L., Axcell, B., Wrobel, L., & Dai, S. (2021). Thermoelectric generator (TEG) technologies and applications. *International Journal of Thermofluids*, *9*, 1–18. https://doi.org/10.1016/j.ijft.2021.100063

Kadri, M., & Sani, R. A. (2017). *Fisika Kuantum*. Bumi Aksara.

Kanagaraj, N. (2021). Photovoltaic and thermoelectric generator combined hybrid energy system with an enhanced maximum power point tracking technique for higher energy conversion efficiency. *Sustainability*, *13*(3144), 1–21. https://doi.org/10.3390/su13063144

Kanagaraj, N. G., & Rezk, H. (2021). Dynamic voltage restorer integrated with photovoltaic-thermoelectric generator for voltage disturbances compensation and energy saving in three-phase system. *Sustainability*, *13*(6), 1–31. https://doi.org/10.3390/su13063511

Karyani, U., Dewi, R. P., & Darpono, R. (2023). Aplikasi Nodemcu Esp8266 Dan Sensor Suhu Untuk Monitoring Suhu Permukaan Panel Surya Melalui Smartphone. *Jurnal Ilmiah Flash*, *8*(2), 53.

Khan, K. A., & Salek, M. A. (2019). Solar Photovoltaic (SPV) Conversion: A Brief Study. *IJARIIE*, *5*(5), 187–204.

Kohan, H. R. F., Eslami, M., & Jafarpur, K. (2023). Thermal influence of thermoelectric modules on performance of hybrid PV-TEG systems: Effects of TEG type, arrangement and working condition. *International Communications in Heat and Mass Transfer*, *147*(10), 106969.

Li, J., & Yang, L. (2023). Recent Development of Heat Sink and Related Design Methods. *Energies*, *16*(20). https://doi.org/10.3390/en16207133

Li, Y. H., Wu, Z. H., Xie, H. Q., Xing, J. J., Mao, J. H., Wang, Y. Y., & Li, Z. (2018). An experimental investigation of a thermoelectric power generation system with different cold-side heat dissipation. *IOP Conference Series Materials Science and Engineering*, *292*(1), 1–9.

Madhavadas, V., Das, D., Mohta, K. A., & Senthur Prabu, S. (2021). Comparative analysis on heat transfer of various fin profile using solid works: A systematic review. *IOP Conference Series: Earth and Environmental Science*, *850*, 1–16. https://doi.org/10.1088/1755-1315/850/1/012029

Marcos-Robredo, G., Rey-Ronco, M. Á., Castro-García, M. P., & Alonso-Sánchez, T. (2022). A Device to Register Temperature in Boreholes in Northwest Spain for Geothermal Research. *Sensors*, *22*(4945), 1–29. https://doi.org/10.3390/s22134945

Maryani, S., & Kusumanto, R. (2023). Solar Panel Optimization Using Peltier Module TEC1-12706. *Journal of Mechanical, Civil and Industrial Engineering*, *4*(3), 43–50. https://doi.org/10.32996/jmcie

Micheli, L., Fernández, E. F., Almonacid, F., Mallick, T. K., & Smestad, G. P. (2016). Performance, limits and economic perspectives for passive cooling of High Concentrator Photovoltaics. *Solar Energy Materials and Solar Cells*, *153*, 164–178. https://doi.org/10.1016/j.solmat.2016.04.016

Mjallal, I., Farhat, H., Hammoud, M., Ali, S., & Assi, I. (2018). Improving the Cooling Efficiency of Heat Sinks through the Use of Different Types of Phase Change Materials. *Technologies*, *6*(1).

Monda, H. T., Feriyonika, & Rudati, P. S. (2018). Sistem Pengukuran Daya pada Sensor Node Wireless Sensor Network. *Industrial Research Workshop and National Seminar*, *9*, 28–31.

Novrista, A., & Yendri, D. (2023). *Otomatisasi Sistem Penyiraman Tanaman Krisan Indoor Berbasis Mikrokontroler*. Penerbit Adab.

Nugroho, E. C., Paryanta, P., & Fikri, S. (2020). Pengunci Pintu Via Wifi Berbasis Mikrokontroler Arduino Uno R3. *Go Infotech: Jurnal Ilmiah STMIK AUB*, *26*(1), 76–84. https://doi.org/10.36309/goi.v26i1.125

Ozbalci, O., Dogan, A., & Asilturk, M. (2022). Heat Transfer Performance of Plate Fin and Pin Fin Heat Sinks Using Al2O3/H2O Nanofluid in Electronic Cooling. *Processes*, *10*(8). https://doi.org/10.3390/pr10081644

Ozbektas, S., Sungur, B., & Topaloğlu, B. (2021). Performance Analysis of Thermoelectric Generator at Different Hot Surface Temperatures. *Journal Of Thermophysics And Heat Transfer*, *35*(4), 814–823.

Pan, T., & Zhu, Y. (2017). *Designing Embedded Systems with Arduino: A Fundamental Technology for Makers*. Springer Nature Singapore.

Panagea, I.S., Tsanis, I.K., Koutroulis, A.G., Grillakis, M.G. (2014), Climate change impact on photovoltaic energy output: The case of Greece. *Advances in Meteorology*, 2014, 1-11.

Pikutis, M., Vasarevičius, D., Martavičius, R. (2015), The influence of temperature of photovoltaic modules on performance of solar power plant. *IOSR Journal of Engineering*, 5, 2278-8719, 09-15.

Popovici, C. G., Hudişteanu, S. V., Mateescu, T. D., & Cherecheş, N. C. (2016). Efficiency Improvement of Photovoltaic Panels by Using Air Cooled Heat Sinks. *Energy Procedia*, *85*(November 2015), 425–432.

Prasetyo, B. Y., Arman, M., & Darmawan, G. P. (2022). Perbandingan Karakteristik Sensor Temperatur LM35 dan DS18B20 Pada Simulator Cerobong Tata Udara. *Prosiding Industrial Research Workshop and National Seminar*, *13*(1), 553–557.

Purba, E. D., Kirom, M. R., & I, R. F. (2019). Analisis Pemanfaatan Energi Panas pada Panel Surya Menjadi Energi Listrik Menggunakan Generator Termoelektrik. *E-Proceeding of Engineering*, *6*(2), 4977–4985.

Putri, M. R., Setyawan, F. X. A., & Sumadi, S. (2022). Sistem Kontrol Beban Dan Monitoring Daya Baterai Pada Panel Surya 50Wp Untuk Aplikasi Penerangan Berbasis Internet of Things. *Jurnal Informatika Dan Teknik Elektro Terapan*, *10*(3), 167–172. https://doi.org/10.23960/jitet.v10i3.2640

Rahardjo, P. (2021). Sistem Penyiraman Otomatis Menggunakan Rtc (Real Time Clock) Berbasis Mikrokontroler Arduino Mega 2560 Pada Tanaman Mangga Harum Manis Buleleng Bali. *Jurnal SPEKTRUM*, *8*(1), 143–147.

Rajagukguk, A. Y., Lammada, I., Hidayat, R., Elektro, J. T., Teknik, F., Singaperbangsa, U., & Abstract, K. (2023). Analisa Daya Output Panel Surya Monokristalin 240 WP Pada Mesin Pengupas Kulit Singkong (Cut-All-Skin Cassava). *Jurnal Ilmiah Wahana Pendidikan*, *9*(9), 6–19. https://doi.org/10.5281/zenodo.7929299

Rifky, Fikri, A., & Mujirudin, M. (2021). Konversi Energi Termal Surya Menjadi Energi Listrik Menggunakan Generator Termoelektrik. *Jurnal Kajian Teknik Mesin*, *6*(1), 60–65. https://doi.org/10.52447/jktm.v6i1.4532

Rizza, H., Yendri, D., & Rahmadya, B. (2023). *Rancang Bangun Dispenser Hemat Energi Listrik dan Higienis Berbasis Mikrokontroler*. Penerbit Adab.

Romadhon, A. S., & Umam, F. (2022). *Project Sistem Kontrol Berbasis Arduino*. Media Nusa Creative (MNC Publishing).

Rudiyanto, B., Rachmanita, R. E., & Budiprasojo, A. (2023). *Dasar-dasar Pemasangan Panel Surya*. Unisma Press.

Rumbayan, M. (2020). *Energi Surya Sebagai Energi Alternatif Yang Terbarukan*. Ahlimedia Book.

Sahin, A. Z., Ismaila, K. G., Yilbas, B. S., & Al-Sharafi, A. (2020). A review on the performance of photovoltaic/thermoelectric hybrid generators. *International Journal of Energy Research*, *44*(5), 3365–3394. https://doi.org/10.1002/er.5139

Sari, E. S. J., & Zainul, R. (2019). Nitrogen Triflorida (NF3): Termodinamika dan Transpor Elektron NF3. *Jurnal Universitas Negeri Padang*, 1–46.

Sehati, Wijayanti, S., Kusumandari, K., & Suryana, R. (2021). Pengaruh Variasi Rapat Arus pada Pembentukan Silikon Berpori di atas Permukaan Si (111) Tipe-P dengan Metode Anodisasi Elektrokimia. *Jurnal Fisika*, *11*(1), 1–8. https://doi.org/10.15294/jf.v11i1.28396

Sharma, D., Mehra, R., & Raj, B. (2021). Comparative analysis of photovoltaic technologies for high efficiency solar cell design. *Superlattices and Microstructures*, *153*(9), 1–11. https://doi.org/10.1016/j.spmi.2021.106861

Sugianto. (2020). Comparative Analysis of Solar Cell Efficiency between Monocrystalline and Polycrystalline. *INTEK: Jurnal Penelitian*, *7*(2), 92–100. https://doi.org/10.31963/intek.v7i2.2625

Sun, C., Zou, Y., Qin, C., Zhang, B., & Wu, X. (2022). Temperature effect of photovoltaic cells: a review. *Advanced Composites and Hybrid Materials*, *5*(6), 2675–2699.

Sutopo. (2023). *Pengantar Mekanika Kuantum: Transformasi Pemikiran Dari*

Fisika Klasik ke Fisika Kuantum. Media Nusa Creative (MNC Publishing).

Suwarti, Wahyono, & Prasetiyo, B. (2019). Analisis Pengaruh Intensitas Matahari, Suhu Permukaan & Sudut Pengarah Terhadap Kinerja Panel Surya. *Eksergi*, *14*(3), 78–85. https://doi.org/10.32497/eksergi.v14i3.1373

Sztekler, K., Wojciechowski, K., & Komorowski, M. (2017). The thermoelectric generators use for waste heat utilization from conventional power plant. *E3S Web of Conferences*, *14*, 1–8. https://doi.org/10.1051/e3sconf/20171401032

Takyi, G., & Nyarko, F. K. (2020). Investigation of the Effect of Temperature Coefficients on Mono-Crystalline Silicon PV Module Installed in Kumasi, Ghana. *Journal of Power and Energy Engineering*, *8*(9), 1–15.

Trigonggo. (2019). *Sumber Tegangan Listrik: Sejarah, Prinsip Kerja, dan Penerapannya*. UIN Sunan Kalijaga Yogyakarta.

Ushasree, P. M., & Bora, B. (2019). Silicon Solar Cells. In *Solar Energy Capture Materials (Inorganic Materials Series 3)* (pp. 1–55). Royal Society of Chemistry Publishing.

Utomo, B. R., Sulistyanto, A., Riyadi, T. W. B., & Wijayanta, A. T. (2023). Enhanced Performance of Combined Photovoltaic–Thermoelectric Generator and Heat Sink Panels with a Dual-Axis Tracking System. *Energies*, *16*(2658), 1–20. https://doi.org/10.3390/en16062658

Venkatesh, M. S., Patil, M., Bale, A. S., & Ingalgeri, S. (2017). Design of Remotely Monitorable Low Power Phototherapy Unit for Treatment of Neonatal Hyperbilirubinemia. *National Conference on Recent Advance in Electronics and Communication*, 1–6.

Wahab, N. A., & Mohamed, Z. (2022). *Control, Instrumentation and Mechatronics: Theory and Practice*. Springer Nature Singapore.

Wahyu. (2023). Desain dan Analisis Sistem Hybrid Panel Surya dan Termoelektrik. *MSI Transaction on Education*, *4*(1), 45–58.

Wibowo, S., Arifin, Z., Rachmanto, R. A., Himawanto, D. A., & Juwana, W. E. (2024). *Optimalisasi Performa Fotovoltaik melalui Geometri Lubang Nozzle pada Water Spray Cooling Systems*. Mega Press Nusantara.

Zein, A. (2023). Pengelolaan Sistem Parkir Dengan Menggunakan Long Range RFID Reader Berbasis Arduino Uno. *Jurnal Ilmu Komputer JIK*, *6*(2), 32–37.

Zhang, Q., Lan, Y., & Ren, Z. (2017). *Advanced Thermoelectrics: Materials, Contacts, Devices, and Systems*. CRC Press.