

DAFTAR PUSTAKA

- Ahn, J., Hong, S., Shim, Y. S., & Park, J. (2020). Electroplated functional materials with 3D nanostructures defined by advanced optical lithography and their emerging applications. *Applied Sciences*, 10(24), 8780. <https://doi.org/10.3390/app10248780>
- Alhosseini, S. H. N., & Mousavi, S. R. (2019). The effect of oxide, carbide, nitride and boride additives on properties of pressureless sintered SiC: A review. *Journal of the European Ceramic Society*, 39(7), 2215-2231. <https://doi.org/10.1016/j.jeurceramsoc.2019.02.042>
- Andiani, A. W. (2019). *Pembentukan Lapisan Komposit Ni-TiN-AlN/Si3N4 Menggunakan Metode Elektrodeposisi dengan Variasi Temperatur* (Doctoral dissertation, Universitas Negeri Jakarta).
- Andrei A. Bunaciu, Elena gabriela Udriștioiu & Hassan Y. Aboul-Enein (2015) X-Ray Diffraction: Instrumentation and Applications, *Critical Reviews in Analytical Chemistry*, 45:4, 289-299, <https://doi.org/10.1080/10408347.2014.949616>
- Arkaan, M. D., Junianto, E., Riyanto, E., Prawara, B., Ramdan, R. D., & Martides, E. (2023, October). Studi Pengaruh Oksidasi Thermal cyclic Dan Heat treatment Pada Lapisan Komposit Logam Berpenguat Keramik WC12Co–NiCrAlY Dengan Metode Thermal Spray HVOF. In *Talenta Conference Series: Energy and Engineering (EE)* (Vol. 6, No. 1, pp. 856-864). <https://doi.org/10.32734/ee.v6i1.1901>
- Ashby, M. F., Shercliff, H., & Cebon, D. (2018). *Materials: engineering, science, processing and design*. Butterworth-Heinemann.
- Bachri, A. (2013). Simulasi Karakteristik Inverter IC 555. *Jurnal Teknika*.
- Bertero, E., Manzano, C. V., Bürki, G., & Philippe, L. (2020). Stainless steel-like FeCrNi nanostructures via electrodeposition into AAO templates using a mixed-solvent Cr (III)-based electrolyte. *Materials & Design*, 190, 108559. <https://doi.org/10.1016/j.matdes.2020.108559>
- Bhadre, A. A., & Ghongade, H. P. (2023). A Comprehensive Analysis Of The Properties Of Electrodeposited Nickel Composite Coatings. *Journal Of Mechanical And Construction Engineering (JMCE)*, 3(1), 1-10. <https://doi.org/10.54060/jmce.v3i1.24>
- Budi, E. (2016). Potensi Pembentukan Lapisan Super Dan Ultra Keras Senyawa Komposit Nitrida Menggunakan Kaidah Elektrodeposisi. *Spektra: Jurnal Fisika Dan Aplikasinya*, 1(2), 187-194. <https://doi.org/10.21009/SPEKTRA.012.14>

- Budi, E., & Sugihartono, I. (2023). Analisa Morfologi Dan Komposisi Hasil Pembentukan Elektrodeposisi Dengan Variasi Rapat Arus Lapisan Komposit Ni/Si₃N₄. In *Prosiding Seminar Nasional Fisika (E-Journal)* (Vol. 11). <https://doi.org/10.21009/03.1101.FA13>
- Budi, E., Fathia, N., Indrasari, W., & Sugihartono, I. (2019, October). Structure and mechanical properties of electrodeposited Ni-AlN/Si₃N₄ composite coating. In *Journal of Physics: Conference Series* (Vol. 1317, No. 1, p. 012050). IOP Publishing. <https://doi.org/10.1088/1742-6596/1317/1/012050>
- Bunaciu, A. A., Udriștioiu, E. G., & Aboul-Enein, H. Y. (2015). X-ray diffraction: instrumentation and applications. *Critical reviews in analytical chemistry*, 45(4), 289-299. <https://doi.org/10.1080/10408347.2014.949616>
- Callister Jr, W. D., & Rethwisch, D. G. (2020). *Fundamentals of materials science and engineering: an integrated approach*. John Wiley & Sons.
- Cooke, K. O. (2016). Parametric analysis of electrodeposited nano-composite coatings for abrasive wear resistance. *Electrodeposition of composite materials*.
- De Vere, N., Jones, L. E., Gilmore, T., Moscrop, J., Lowe, A., Smith, D., ... & Ford, C. R. (2017). Using DNA metabarcoding to investigate honey bee foraging reveals limited flower use despite high floral availability. *Scientific Reports*, 7(1), 42838. <https://doi.org/10.1038/srep42838>
- Devega, M., & Dahlan, D. (2015). Rancang Bangun Alat Pembangkit Arus Pulsa Berbasis Mikrokontroler ATmega8535 untuk Proses Elektrodeposisi. *Jurnal Fisika Unand*, 4(3).
- Doğan, F., Uysal, M., Duru, E., Akbulut, H., & Aslan, S. (2020). Pulsed electrodeposition of Ni-B/TiN composites: effect of current density on the structure, mechanical, tribological, and corrosion properties. *Journal of Asian ceramic societies*, 8(4), 1271-1284. <https://doi.org/10.1080/21870764.2020.1840704>
- Fathia, Nurul. (2018). Pembentukan Lapisan Komposit Ni-AlN/Si₃N₄ Menggunakan Metode Elektrodeposisi dengan Variasi Konsentrasi Si₃N₄. Skripsi. Universitas Negeri Jakarta. Jakarta.
- Fathyunes, L., Khalil-Allafi, J., Sheykholeslami, S. O. R., & Moosavifar, M. (2018). Biocompatibility assessment of graphene oxide-hydroxyapatite coating applied on TiO₂ nanotubes by ultrasound-assisted pulse electrodeposition. *Materials Science and Engineering: C*, 87, 10-21. <https://doi.org/10.1016/j.msec.2018.02.012>

- Fayomi, O. S. I. (2020). Assessing the impact of Si₃N₄ composite films and process variable on the structural and corrosion improvement of structural steel used in construction industry. *Case Studies in Construction Materials*, 13, e00423. <https://doi.org/10.1016/j.cscm.2020.e00423>
- Fu, X., Liu, J., Song, Z., Fu, H., Lin, J., Wang, L., ... & Gao, G. Effect of Current Density on the Corrosion Resistance of Ni-Co-Si₃N₄ Composite Coatings Prepared by Jet Electrodeposition on the Surface of the Rotating Body. Available at SSRN 4718129. <https://dx.doi.org/10.2139/ssrn.4718129>
- Fu, Z., Zhang, Z., Meng, L., Shu, B., Zhu, Y., & Zhu, X. (2021). Effect of Strain Rate on Mechanical Properties of Cu/Ni Multilayered Composites Processed by Electrodeposition. In *Heterostructured Materials* (pp. 679-694). Jenny Stanford Publishing.
- Galang, G. A. P., & Setiawan, F. (2022). ANALISIS PENGARUH WAKTU PELAPISAN NIKEL PADA MATERIAL ALUMINIUM SERI 2024 TERHADAP KEKUATAN TARIK DAN KEKERASAN DENGAN METODE ELEKTROPLATING. *Teknika STTKD: Jurnal Teknik, Elektronik, Engine*, 8(2), 199-205. <https://doi.org/10.56521/teknika.v9i1.611>
- Gyawali, G., Joshi, B., Tripathi, K., & Lee, S. W. (2016). Preparation of Ni-W-Si₃N₄ composite coatings and evaluation of their scratch resistance properties. *Ceramics International*, 42(2), 3497-3503. <https://doi.org/10.1016/j.ceramint.2015.10.153>
- Han, S., Löhr, S. C., Abbott, A. N., Baldermann, A., Farkaš, J., McMahon, W., ... & Owen, M. (2022). Earth system science applications of next-generation SEM-EDS automated mineral mapping. *Frontiers in Earth Science*, 10, 956912. <https://doi.org/10.3389/feart.2022.956912>
- Han, Y., Ruan, K., & Gu, J. (2022). Janus (BNNS/ANF)-(AgNWs/ANF) thermal conductivity composite films with superior electromagnetic interference shielding and Joule heating performances. *Nano Research*, 15(5), 4747-4755. <https://doi.org/10.1007/s12274-022-4159-z>
- Hoseinzadeh, S., Gordani, G., Tavoosi, M., Alhakeem, M. R. H., Al-Bahrani, M., & Estarki, M. R. L. (2024). Effect of sintering temperature and time on the microstructure, density, phase, selected mechanical and tribological properties of Cf/Si₃N₄ composite fabricated by the spark plasma sintering. *Arabian Journal of Chemistry*, 17(1), 105378. <https://doi.org/10.1016/j.arabjc.2023.105378>

- Houssain, H., Islak, S., & Çalığülü, U. (2023). Microstructure and Hardness Properties of Ni-Si₃N₄ Composite Materials Produced by Powder Metallurgy Method. *Kastamonu University Journal of Engineering and Sciences*, 9(2), 67-72. <https://doi.org/10.55385/kastamonujes.1357436>
- Jung, D. H., Sharma, A., Kim, K. H., Choo, Y. C., & Jung, J. P. (2015). Effect of current density and plating time on Cu electroplating in TSV and low alpha solder bumping. *Journal of Materials Engineering and Performance*, 24, 1107-1115. <https://doi.org/10.1007/s11665-015-1394-4>
- Kasturibai, S., & Kalaignan, G. P. (2014). Pulse electrodeposition and corrosion properties of Ni-Si₃N₄ nanocomposite coatings. *Bulletin of Materials Science*, 37, 721-728. <https://doi.org/10.1007/s12034-014-0689-7>
- Kazakova, M. A., Andreev, A. S., Selyutin, A. G., Ishchenko, A. V., Shuvaev, A. V., Kuznetsov, V. L., ... & de Lacaillerie, J. B. D. E. (2018). Co metal nanoparticles deposition inside or outside multi-walled carbon nanotubes via facile support pretreatment. *Applied Surface Science*, 456, 657-665. <https://doi.org/10.1016/j.apsusc.2018.06.124>
- Khuraibut, M. S. (2022). Multivibrators-Astable and Monostable IC. *International Journal of Engineering Research and Applications*. Vol. 12, Issue 4, (Series-I), pp. 53-59. <https://doi.org/10.9790/9622-1204015359>
- Kloprogge, J. T., Ponce, C. P., & Loomis, T. (2020). *The Periodic Table: Nature's Building Blocks: An Introduction to the Naturally Occurring Elements, Their Origins and Their Uses*. Elsevier.
- Kornaus, K., Gubernat, A., Zientara, D., Rutkowski, P., & Stobierski, L. (2016). Mechanical and thermal properties of tungsten carbide-graphite nanoparticles nanocomposites. *Polish Journal of Chemical Technology*, 18(2), 84-88. <https://doi.org/10.1515/pjct-2016-0033>
- Kravanja, K. A., & Finšgar, M. (2021). Analytical techniques for the characterization of bioactive coatings for orthopaedic implants. *Biomedicines*, 9(12), 1936. <https://doi.org/10.3390/biomedicines9121936>
- Krell, J., Röttger, A., Ziesing, U., & Theisen, W. (2020). Influence of precipitation hardening on the high-temperature sliding wear resistance of an aluminium alloyed iron-nickel base alloy. *Tribology International*, 148, 106342. <https://doi.org/10.1016/j.triboint.2020.106342>
- Kumayasari, M. F., & Sultoni, A. I. (2017). Studi Uji kekerasan Rockwell Superficial vs Micro Vickers. *Jurnal Teknologi Proses dan Inovasi Industri*, 2(2).

- Lajevardi, S. A., Shahrabi, T., & Szpunar, J. A. (2017). Tribological properties of functionally graded Ni-Al₂O₃ nanocomposite coating. *Journal of The Electrochemical Society*, 164(6), D275. Laksono, A.D. (2018). Pengenalan Teknologi Material. <https://doi.org/10.1149/2.0731706jes>
- Liu, G., Zhang, X., Chen, X., He, Y., Cheng, L., Huo, M., ... & Lu, J. (2021). Additive manufacturing of structural materials. *Materials Science and Engineering: R: Reports*, 145, 100596. <https://doi.org/10.1016/j.mser.2020.100596>
- Liu, J., Wang, Q., Li, Y., Liang, X., Wang, X., Sang, S., ... & Xu, Y. (2021). Inhibiting crystallization of fused silica ceramic at high temperature with addition of α -Si₃N₄. *Ceramics International*, 47(8), 11394-11404. <https://doi.org/10.1016/j.ceramint.2020.12.266>
- M. R. Wahidiyah et al., "Preparasi Lapisan Tipis Zno Dengan Metode Elektrodeposisi Untuk Aplikasi Dye-Sensitized Solar Cell (Dssc)," *Jurnal Teknik Pomits*, pp. 1-6, 2015.
- Masta, N. (2020). *Buku Materi Pembelajaran Scanning Electron Microscopy*.
- Maulida, A. B. (2023). *Pembentukan Dan Karakterisasi Lapisan Komposit Ni-Tin-Aln/Si₃n₄ Dengan Kaidah Elektrodeposisi Rapat Arus Pulsa* (Doctoral Dissertation, Universitas Negeri Jakarta).
- Meinhold, V., Höhlich, D., Dittes, A., Mehner, T., & Lampke, T. (2021, May). Electrodeposition of FeCrNi and FeCr alloys and influence of heat treatment on microstructure and composition. In *IOP Conference Series: Materials Science and Engineering* (Vol. 1147, No. 1, p. 012003). IOP Publishing. <https://doi.org/10.1088/1757-899X/1147/1/012003>
- Meinhold, V., Höhlich, D., Mehner, T., & Lampke, T. (2022). Electrodeposition of thick and crack-free Fe-Cr-Ni coatings from a Cr (III) electrolyte. *Coatings*, 12(1), 56. <https://doi.org/10.3390/coatings12010056>
- Mohammed, A., & Abdullah, A. (2018). Scanning electron microscopy (SEM): A review. In *Proceedings of the 2018 International Conference on Hydraulics and Pneumatics—HERVEX, Băile Govora, Romania* (Vol. 2018, pp. 7-9).
- Mohanavel, V., & Ravichandran, M. (2022). Optimization of parameters to improve the properties of AA7178/Si₃N₄ composites employing Taguchi approach. *Silicon*, 14(4), 1381-1394. <https://doi.org/10.1007/s12633-020-00917-0>
- Mohanavel, V., Ali, K. A., Prasath, S., Sathish, T., & Ravichandran, M. (2020). Microstructural and tribological characteristics of AA6351/Si₃N₄

composites manufactured by stir casting. *Journal of Materials Research and Technology*, 9(6), 14662-14672.
<https://doi.org/10.1016/j.jmrt.2020.09.128>

Mohanavel, V., Rajan, K., & Ravichandran, M. (2016). Synthesis, characterization and properties of stir cast AA6351-aluminium nitride (AlN) composites. *Journal of Materials Research*, 31(24), 3824-3831.
<http://dx.doi.org/10.1557/jmr.2016.460>

Nandiyanto, A. B. D., Wiryani, A. S., Rusli, A., Purnamasari, A., Abdullah, A. G., Widiaty, I., & Hurriyati, R. (2017, March). Extraction of curcumin pigment from Indonesian local turmeric with its infrared spectra and thermal decomposition properties. In IOP Conference Series: Materials Science and Engineering (Vol. 180, No. 1, p. 012136). IOP Publishing.
<http://dx.doi.org/10.1088/1757-899X/180/1/012136>

Natalia, G., Budi, E., & Sugihartono, I. (2023). Analisis Morfologi Dan Komposisi Lapisan Komposit Ni-Aln Dengan Metode Elektrodeposisi Menggunakan Scanning Electron Microscopy-Energy Dispersive Spectroscopy (Sem-Eds). In *Prosiding Seminar Nasional Fisika (E-Journal)* (Vol. 11). <https://doi.org/10.21009/03.1101.FA14>

Newbury*, D. E., & Ritchie, N. W. (2013). Is scanning electron microscopy/energy dispersive X-ray spectrometry (SEM/EDS) quantitative?. *Scanning*, 35(3), 141-168. <https://doi.org/10.1002/sca.21041>

Noori, S. M. (2019). Synthesis and characterization of Ni-Si₃N₄ : Si₃N₄ nanocomposite coatings fabricated by pulse electrodeposition. *Bulletin of Materials Science*, 42, 1-7. <https://doi.org/10.1007/s12034-019-1733-4>

Nu'maa, S., Budi, E., & Nasbey, H. (2020, December). Kajian Pengaruh Variasi Temperatur Pada Proses Elektrodeposisi Terhadap Morfologi Lapisan Komposit Matrik Logam. In *Prosiding Seminar Nasional Fisika (E-Journal)* (Vol. 9, pp. SNF2020FA-89).
<https://doi.org/10.21009/03.SNF2020.01.FA.15>

Pauzan, M. (2019). Rancang Bangun Bel Rumah Menggunakan IC 555 Sebagai Monostable dan Astable Multivibrato. *Jurnal Ilmu Komputer*, 10(01), 61-67. <http://45.118.112.109/ojspasim/index.php/ilkom/article/view/151>

Pauzan, M. (2019). Rancang Bangun Bel Rumah Menggunakan IC 555 Sebagai Monostable dan Astable Multivibrato. *Jurnal Ilmu Komputer*, 10(01), 61-67. <http://45.118.112.109/ojspasim/index.php/ilkom/article/view/151>

Payana, D., Widiyarta, I. M., & Sucipta, M. (2018). Kekerasan Baja Karbon Sedang dengan Variasi Suhu Permukaan Material. *Jurnal METTEK (Jurnal Ilmiah Nasional Dalam Bidang Ilmu Teknik Mesin)*, 4(2).

- Popa, I., Popa, G. N., Diniş, C. M., & Iagăr, A. (2021, February). Temperature-frequency converter made with astable multivibrator and thermistor. In *Journal of Physics: Conference Series* (Vol. 1781, No. 1, p. 012045). IOP Publishing. <https://doi.org/10.1088/1742-6596/1781/1/012045>
- Prasannakumar, R. S., Bhakyaraj, K., Chukwuike, V. I., Mohan, S., & Barik, R. C. (2019). An investigation of the effect of pulse electrochemical deposition parameters on morphology, hardness and corrosion behaviour in the marine atmosphere. *Surface Engineering*, 35(12), 1021-1032. <https://doi.org/10.1080/02670844.2019.1609289>
- Prasannakumar, R. S., Bhakyaraj, K., Chukwuike, V. I., Mohan, S., & Barik, R. C. (2019). An investigation of the effect of pulse electrochemical deposition parameters on morphology, hardness and corrosion behaviour in the marine atmosphere. *Surface Engineering*, 35(12), 1021-1032. <https://doi.org/10.1080/02670844.2019.1609289>
- Priyadarshi, P., Kishore, K., & Maurya, R. (2023). Electrodeposited Ni On Copper Substrate: An Experimental And Simulation Comparative Study. *International Journal On Interactive Design And Manufacturing (Ijidem)*, 17(4), 1489-1495. <https://doi.org/10.1007/s12008-022-01166-8>
- Pu, J., Shen, Z., Zhong, C., Zhou, Q., Liu, J., Zhu, J., & Zhang, H. (2020). Electrodeposition Technologies for Li-Based Batteries: New Frontiers of Energy Storage. *Advanced Materials*, 32(27), 1903808. <https://doi.org/10.1002/adma.201903808>
- Purba, R. H., Shimizu, K., Kusumoto, K., Gaqi, Y., & Huq, M. J. (2022). Tribological characteristics of high-chromium based multi-component white cast irons. *Crystals*, 12(10), 1488. <https://doi.org/10.3390/cryst12101488>
- Raghavendra, C. R., Basavarajappa, S., & Sogalad, I. (2018). Electrodeposition of Ni-nano composite coatings: a review. *Inorganic and Nano-Metal Chemistry*, 48(12), 583-598. <https://doi.org/10.1080/24701556.2019.1567537>
- Rajak, D. K., Pagar, D. D., Kumar, R., & Pruncu, C. I. (2019). Recent progress of reinforcement materials: A comprehensive overview of composite materials. *Journal of Materials Research and Technology*, 8(6), 6354-6374. <https://doi.org/10.1016/j.jmrt.2019.09.068>
- Ramade, J., Andriambarijaona, L. M., Steinmetz, V., Goubet, N., Legrand, L., Barisien, T., ... & Chamarro, M. (2018). Fine structure of excitons and electron-hole exchange energy in polymorphic CsPbBr₃ single

nanocrystals. *Nanoscale*, 10(14), 6393-6401.

<https://doi.org/10.1039/C7NR09334A>.

Ranjan, P., Kurosaki, T., Suematsu, H., Jayaganthan, R., & Sarathi, R. (2020). Formation of tungsten carbide nanoparticles by wire explosion process. *International Journal of Applied Ceramic Technology*, 17(1), 304-310. <https://doi.org/10.1111/ijac.13350>

Sajjadnejad, M., Abadeh, H. K., Omidvar, H., & Hosseinpour, S. (2020). Assessment of Tribological behavior of nickel-nano Si₃N₄ composite coatings fabricated by pulsed electroplating process. *Surface Topography: Metrology and Properties*, 8(2), 025009. <https://doi.org/10.1088/2051-672X/ab7ae5>

Sajjadnejad, M., Omidvar, H., Javanbakht, M., & Mozafari, A. (2017). Textural and structural evolution of pulse electrodeposited Ni/diamond nanocomposite coatings. *Journal of Alloys and Compounds*, 704, 809-817. <https://doi.org/10.1016/j.jallcom.2016.12.318>

Sannasi, V., & Subbian, K. (2020). Influence of Moringa oleifera gum on two polymorphs synthesis of MnO₂ and evaluation of the pseudo-capacitance activity. *Journal of Materials Science: Materials in Electronics*, 31(19), 17120-17132. <https://doi.org/10.1007/s10854-020-04272-z>

Saputra, S. D., & Masugino, M. (2022). PENGARUH TEGANGAN LISTRIK (VOLT) PROSES ELECTROPLATING NIKEL TERHADAP KETAHANAN KOROSI DAN KEKERASAN LAPISAN PADA BAJA AISI 1010. *JMEL: Journal of Mechanical Engineering Learning*, 11(2), 24-32.

Song, Z., Zhang, H., Fu, X., Lin, J., Shen, M., Wang, Q., & Duan, S. (2020). Effect of current density on the performance of Ni-P-ZrO₂-CeO₂ composite coatings prepared by jet-
<https://doi.org/10.3390/coatings10070616>

Stalin, B., Kumar, P. R., & Ravichandran, M. (2020). Investigations on characterization and properties of AA6063-Si₃N₄composites fabricated through stir casting route. *Materials Today: Proceedings*, 22, 2631-2637. <https://doi.org/10.1016/j.matpr.2020.03.394>

Subagiyo, S. (2017). Analisis Hasil Kekerasan Metode Vikers Dengan Variasi Gaya Pembebanan Pada Baja. *Majapahit Techno: Jurnal Ilmiah dan Teknologi*, 6(2), 09-14.

Sun, J., Zhao, J., Gong, F., Ni, X., & Li, Z. (2019). Development and application of WC-based alloys bonded with alternative binder phase. *Critical*

Reviews in Solid State and Materials Sciences, 44(3), 211-238.
<https://doi.org/10.1080/10408436.2018.1483320>

Teknikelektronika. 2018. “konfigurasi kaki ic 555”.
<https://teknikelektronika.com/pengertian-mengenal-ic-555-ic-timer-konfigurasi-kaki-ic555/>. diakses pada 050-13-2024

Thurber, C. R., Mohamed, A. M., & Golden, T. D. (2016). Electrodeposition of Cu–Ni Composite Coatings. In *Electrodeposition of Composite Materials* (pp. 83-104). Rijeka: IntechOpen.

Tidarriano, B. B., Suharno, K., & Mulyaningsih, N. (2019). PENGARUH WAKTU ELEKTROPLATING NIKEL TERHADAP KEKERASAN PADA TANGKI BAHAN BAKAR SEPEDA MOTOR. *Jurnal Teknik Mesin MERC (Mechanical Engineering Research Collection)*, 2(2).

Tonelli, D., Scavetta, E., & Gualandi, I. (2019). Electrochemical deposition of nanomaterials for electrochemical sensing. *Sensors*, 19(5), 1186.
<http://dx.doi.org/10.3390/s19051186>

Umnyagin, G. M., Degtyarov, V. E. E., & Obolenskiy, S. V. (2019). Numerical simulation of the current–voltage characteristics of bilayer resistive memory based on non-stoichiometric metal oxides. *Semiconductors*, 53, 1246-1248. <http://dx.doi.org/10.1134/S1063782619090252>

Vidhyadharan, A. S., & Vidhyadharan, S. (2022). Memristor–CMOS hybrid ultra-low-power high-speed multivibrators. *Analog Integrated Circuits and Signal Processing*, 110(1), 47-53. <https://doi.org/10.1007/s10470-021-01856-5>

Visser, M. J., & Pretorius, E. (2019). Atomic force microscopy: The characterisation of amyloid protein structure in pathology. *Current topics in medicinal chemistry*, 19(32), 2958-2973.
<https://doi.org/10.2174/1568026619666191121143240>

Marwoto, P. (2013). KONDUKTIVITAS DAN TRANSMITANSI FILM TIPIS zinc oxide YANG DIDEPOSISIKAN PADA TEMPERATUR RUANG. *Unnes Physics Journal*, 2(1).

Walsh, F. C., & Ponce de Leon, C. (2014). A review of the electrodeposition of metal matrix composite coatings by inclusion of particles in a metal layer: an established and diversifying technology. *Transactions of the IMF*, 92(2), 83-98. <https://doi.org/10.1179/0020296713Z.000000000161>

Wang, S., Yu, X., Lin, Z., Zhang, R., He, D., Qin, J., ... & Zhao, Y. (2012). Synthesis, crystal structure, and elastic properties of novel tungsten

- nitrides. *Chemistry of Materials*, 24(15), 3023-3028.
<https://doi.org/10.1021/cm301516w>
- Wang, P., Wang, S., Zou, Y., Zhu, J., He, D., Wang, L., & Zhao, Y. (2021). Novel Nitride Materials Synthesized at High Pressure. *Crystals*, 11(6), 614.
<https://doi.org/10.3390/cryst11060614>
- Wijaya, D. H., & Dahlan, D. (2016). Karakterisasi fasa dan kapasitansi elektroda kayu karet yang dielektrodeposisi menggunakan CuSO₄ untuk aplikasi elektroda superkapasitor. *Jurnal Fisika Unand*, 5(1), 78-84.
- Wulandari, D. C. (2014). Rancang Bangun Ammeter Dc Tipe Non-Destructive Berbasis Mikrokontroler Atmega8535 Dengan Sensor Efek Hall Acs712. *Jurnal Fisika Unand*, 3(2), 121-127.
- Xia, F., Jia, W., Jiang, M., Cui, W., & Wang, J. (2017). Microstructure and corrosion properties of Ni-TiN nanocoatings prepared by jet pulse electrodeposition. *Ceramics International*, 43(17), 14623-14628.
<https://doi.org/10.1016/j.ceramint.2017.07.117>
- Xia, F., Li, C., Ma, C., Li, Q., & Xing, H. (2021). Effect of pulse current density on microstructure and wear property of Ni-TiN nanocoatings deposited via pulse electrodeposition. *Applied Surface Science*, 538, 148139.
<https://doi.org/10.1016/j.apsusc.2020.148139>
- Xu, Z., Liu, Y., & Wang, B. (2021). Effect of initial coating crack on the mechanical performance of surface-coated zircaloy cladding. *Nuclear Engineering and Technology*, 53(4), 1250-1258.
<https://doi.org/10.1016/j.net.2020.09.029>
- Yanti, H., Wikandari, R., Millati, R., Niklasson, C., & Taherzadeh, M. J. (2014). Effect of ester compounds on biogas production: beneficial or detrimental?. *Energy Science & Engineering*, 2(1), 22-30.
<https://doi.org/10.1002/ese3.29>
- Yasin, G., Arif, M., Nizam, M. N., Shakeel, M., Khan, M. A., Khan, W. Q., ... & Zuo, Y. (2018). Effect of surfactant concentration in electrolyte on the fabrication and properties of nickel-graphene nanocomposite coating synthesized by electrochemical co-deposition. *RSC advances*, 8(36), 20039-20047. <https://doi.org/10.1039/C7RA13651J>
- Zhang, M., Ling, Y., Liu, L., Xu, J., Li, J., & Fang, Q. (2020). Carbon supported PdNi alloy nanoparticles on SiO₂ nanocages with enhanced catalytic performance. *Inorganic Chemistry Frontiers*, 7(17), 3081-3091.
<https://doi.org/10.1039/D0QI00596G>

- Zhang, X., Chen, H., Xu, L., Xu, J., Ren, X., & Chen, X. (2019). Cracking mechanism and susceptibility of laser melting deposited Inconel 738 superalloy. *Materials & Design*, 183, 108105. <https://doi.org/10.1016/j.matdes.2019.108105>
- Zhang, Y., Fan, Y., Feng, K., Lu, C., Wang, Y., & Shao, T. (2024). Evolution of high-temperature hardness of multimodal γ' nickel-based superalloy. *Journal of Materials Research and Technology*, 29, 3771-3781. <https://doi.org/10.1016/j.jmrt.2024.02.093>
- Zoikis-Karathanasis, A., Pavlatou, E. A., & Spyrellis, N. (2010). Pulse electrodeposition of Ni-P matrix composite coatings reinforced by SiC particles. *Journal of Alloys and Compounds*, 494(1-2), 396-403. <https://doi.org/10.1016/j.jallcom.2010.01.057>
- Zolfigol, M. A., Ayazi-Nasrabadi, R., & Baghery, S. (2016). The first urea-based ionic liquid-stabilized magnetic nanoparticles: an efficient catalyst for the synthesis of bis (indolyl) methanes and pyrano [2, 3-d] pyrimidinone derivatives. *Applied Organometallic Chemistry*, 30(5), 273-281. <https://doi.org/10.1002/aoc.3428>
- Zuha, Z. I. A., Yantidewi, M., & Sucahyo, I. (2023). Alat Eksperimen Charge Discharge Kapasitor pada Rangkaian RC Seri dengan Sensor Ina219. *Jurnal Kolaboratif Sains*, 6(7), 707-712. <https://doi.org/10.56338/jks.v6i7.3821>