DAFTAR PUSTAKA

Abdillah, H., Saputra, G., Novitrian, & Permana, S. (2017). Study of Natural Convection Passive Cooling System for Nuclear Reactors. *Journal of Physics: Conference Series*, *877*(1), 8–13. https://doi.org/10.1088/1742-6596/877/1/012047

Alawi, O. A., Sidik, N. A. C., Xian, H. W., Kean, T. H., & Kazi, S. N. (2018). Thermal conductivity and viscosity models of metallic oxides nanofluids. *International Journal of Heat and Mass Transfer*, *116*, 1314–1325. https://doi.org/10.1016/j.ijheatmasstransfer.2017.09.133

Amoo, L. M., & Layi Fagbenle, R. (2020). Advanced fluids - a review of nanofluid transport and its applications. In *Applications of Heat, Mass and Fluid Boundary Layers*. Elsevier Ltd. https://doi.org/10.1016/B978-0-12-817949-9.00020-7

Arsana, I. M., Agista, D. R., Ansori, A., Sutjahjo, D. H., & Effendy, M. (2020). The Effect of Nanofluid Volume Fraction to the Rate of Heat Transfer Convection Nanofluid Water-Al2O3 on Shell and Tube Heat Exchanger. *Journal of Physics: Conference Series*, *1569*(3). https://doi.org/10.1088/1742-6596/1569/3/032048

Arsana, I. M., Budhikardjono, K., Susianto, & Altway, A. (2016). Modelling of the single staggered wire and tube heat exchanger. *International Journal of Applied Engineering Research*, *11*(8), 5591–5599.

Astyanto, A. H., Nugroho, A. N. A., Indarto, Gusti Ngurah Bagus Catrawedarma, I., Lucas, D., & Deendarlianto. (2023). Statistical characterization of the interfacial behavior captured by a novel image processing algorithm during the gas/liquid counter-current two-phase flow in a 1/3 scaled down of PWR hot leg. *Nuclear Engineering and Design*, *404*(2), 112179. https://doi.org/10.1016/j.nucengdes.2023.112179

Bejjam, R. B., Kiran Kumar, K., & Balasubramanian, K. (2019). Experimental Studies on Nanofluid-Based Rectangular Natural Circulation Loop. *Journal of*

Thermal Science and Engineering Applications, *11*(4). https://doi.org/10.1115/1.4043760

Cengel, Y. A., & Ghajar, A. J. (2015). Heat and Mass Transfer. In *McGraw-Hill Education: Vol.* (Nomor). http://repositorio.unan.edu.sni/2986/1/5624.pdf%0Ahttp://fiskal.kemenkeu.go.id/ejournal%0Ahttp://dx.doi.org/10.1016/j.cirp.2016.06.001%0Ahttp://dx.doi.org/10.1016/j.powtec.2016.12.055%0Ahttps://doi.org/10.1016/j.ijfatigue.2019.02.006%0Ahttps://doi.org/10.1

Choi, S. U. S., & Eastman, J. A. (1995). Enhancing thermal conductivity of fluids with nanoparticles. *American Society of Mechanical Engineers, Fluids Engineering Division (Publication) FED*, *231*(March), 99–105.

Crabtree, A., & Siman-Tov, M. (1993). *Thermophysical Properties of Saturated Light and Heavy Water For Advanced Neutron Source Applications*.

Das, P. K. (2017). A review based on the effect and mechanism of thermal conductivity of normal nanofluids and hybrid nanofluids. *Journal of Molecular Liquids*. https://doi.org/10.1016/j.molliq.2017.05.071

Deendarlianto, Höhne, T., Lucas, D., & Vierow, K. (2012). Gas-liquid countercurrent two-phase flow in a PWR hot leg: A comprehensive research review. *Nuclear Engineering and Design*, *243*(2), 214–233. https://doi.org/10.1016/j.nucengdes.2011.11.015

Deendarlianto, Takata, Y. ., Hidaka, S., & M.Kohno. (2008). The effect of Contact Angle on Evaporation of Water Droplet on a Heated Solid Surface. *Fifth Int. Conference on Transport Penomena In Multiphase Systems, Bialystok, Poland, March 2014*, 59–64.

Doganay, S., & Turgut, A. (2015). Enhanced effectiveness of nanofluid based natural circulation mini loop. *Applied Thermal Engineering*, *75*, 669–676. https://doi.org/10.1016/j.applthermaleng.2014.10.083

Gaos, Y. S., Juarsa, M., Marzuki, E., & Januar Akbar. (2011). *Efek Perubahan sudut kemiringan terhadap perpindahan kalor dan laju aliran air pada untai sirkulasi alamiah*. 39–53.

Ghorbanali, Z., & Talebi, S. (2020). Investigation of a nanofluid-based natural

circulation loop. *Progress in Nuclear Energy*, *129*(August). https://doi.org/10.1016/j.pnucene.2020.103494

Gräfe, W. (2013). A simple quantum mechanical model for the contribution of electronic surface states to surface stress, strength and electrocapillarity of solids. *Journal of Materials Science*, *48*(5), 2092–2103. https://doi.org/10.1007/s10853-012-6983-0

Haryanto, D., Rosidi, A., K, G. B. H., & Juarsa, M. (2022). *KESETIMBANGAN TERMAL PADA FASILITAS UNTAI FASSIP- 03 NT BERDASARKAN PERBEDAAN TEMPERATUR PADA HEATING TANK SECTION DAN COOLING TANK SECTION*.

Ho, C. J., Chung, Y. N., & Lai, C. M. (2014). Thermal performance of Al2O3/water nanofluid in a natural circulation loop with a mini-channel heat sink and heat source. *Energy Conversion and Management*, *87*, 848–858. https://doi.org/10.1016/j.enconman.2014.07.079

Holman, J. P. (2011). *Experimental Methods for Engineers*. McGraw-Hill.

Hwang, K. S., Jang, S. P., & Choi, S. U. S. (2009). Flow and convective heat transfer characteristics of water-based Al2O3 nanofluids in fully developed laminar flow regime. *International Journal of Heat and Mass Transfer*, *52*(1–2), 193–199. https://doi.org/10.1016/j.ijheatmasstransfer.2008.06.032

Hwang, Y., Lee, J. K., Lee, C. H., Jung, Y. M., Cheong, S. I., Lee, C. G., Ku, B. C., & Jang, S. P. (2007). Stability and thermal conductivity characteristics of nanofluids. *Thermochimica Acta*, *455*(1–2), 70–74. https://doi.org/10.1016/j.tca.2006.11.036

IAEA-TECDOC-1474 (Nomor November). (2005).

International Atomic Energy Agency. (2009). IAEA TECDOC 1624: Passive Safety Systems and Natural Circulation in Water Cooled Nuclear Power Plants. *International Atomic Energy Agency*, 159. http://www-pub.iaea.org/MTCD/publications/PDF/te_1624_web.pdf

International Atomic Energy Agency. (2013). *Passive Safety Systems in Advanced Water Cooled Reactors (AWCRs)*.

Irawan, D., Kristiawan, B., & Prasetyo Budiana, E. (2013). Studi Eksperimental

Perpindahan Kalor Konveksi Fluida Nano Al2O3 /Ethylene Glycol Pada Circular Tube Di Bawah Kondisi Fluks Kalor Konstan. *Mekanika*, *11*(September), 33–42.

Jain, V., Nayak, A. K., Vijayan, P. K., Saha, D., & Sinha, R. K. (2010). Experimental investigation on the flow instability behavior of a multi-channel boiling natural circulation loop at low-pressures. *Experimental Thermal and Fluid Science*, *34*(6), 776–787. https://doi.org/10.1016/j.expthermflusci.2010.01.007

Juarsa, M., Antariksawan, A. R., Kusuma, M. H., Haryanto, D., & Putra, N. (2018). Estimation of natural circulation flow based on temperature in the FASSIP-02 large-scale test loop facility. *IOP Conference Series: Earth and Environmental Science*, *105*(1). https://doi.org/10.1088/1755-1315/105/1/012091

Juarsa, M., Antariksawan, A. R., Kusuma, M. H., Widodo, S., & Putra, N. (2019). The effect of power and cooler flow on time responds of flow stability in natural circulation phenomenon using FASSIP-01 loop. *AIP Conference Proceedings*, *2062*. https://doi.org/10.1063/1.5086555

Juarsa, M., Goeritno, A., Suheri, A., Sumirat, I., Saptoadi, D., & Nurcahyo, A. (2011). *Studi ekperimental laju aliran massa air berdasarkan perubahan sudut kemiringan untai pada kasus sirkulasi alamiah menggunakan untai simulasi sirkulasi alamiah (ussa-ft01)*. *01*(01), 22–30.

Juarsa, M., Purba, J. H., Kusuma, H. M., Setiadipura, T., & Widodo, S. (2014). Preliminary study on mass flow rate in passive cooling experimental simulation during transient using NC-queen apparatus. *Atom Indonesia*, *40*(3), 141–147. https://doi.org/10.17146/aij.2014.333

Kim, Y., Kim, M., & Kim, W. (2013). Effect of the Fukushima nuclear disaster on global public acceptance of nuclear energy. *Energy Policy*, *61*, 822–828. https://doi.org/10.1016/j.enpol.2013.06.107

Koca, H. D., Doganay, S., & Turgut, A. (2017). Thermal characteristics and performance of Ag-water nanofluid: Application to natural circulation loops. *Energy Conversion and Management*, *135*, 9–20. https://doi.org/10.1016/j.enconman.2016.12.058

Kozmenkov, Y., Rohde, U., & Manera, A. (2012). Validation of the RELAP5 code for the modeling of flashing-induced instabilities under natural-circulation conditions using experimental data from the CIRCUS test facility. *Nuclear Engineering and Design*, *243*, 168–175. https://doi.org/10.1016/j.nucengdes.2011.10.053

Krishnani, M., & Basu, D. N. (2017). Computational stability appraisal of rectangular natural circulation loop: Effect of loop inclination. *Annals of Nuclear Energy*, *107*, 17–30. https://doi.org/10.1016/j.anucene.2017.04.012

Kumar, M., Nayak, A. K., & Joshi, J. B. (2017). Investigations of natural convection and circulation in Passive Moderator Cooling System of an advanced reactor in a scaled test facility. *Nuclear Engineering and Design*, *322*, 55–67. https://doi.org/10.1016/j.nucengdes.2017.06.018

Mahian, O., Kolsi, L., Amani, M., Estellé, P., Ahmadi, G., Kleinstreuer, C., Marshall, J. S., Siavashi, M., Taylor, R. A., Niazmand, H., Wongwises, S., Hayat, T., Kolanjiyil, A., Kasaeian, A., & Pop, I. (2019). Recent advances in modeling and simulation of nanofluid flows-Part I: Fundamentals and theory. *Physics Reports*, *790*, 1–48. https://doi.org/10.1016/j.physrep.2018.11.004

Mehrali, M., Ghatkesar, M. K., & Pecnik, R. (2018). Full-spectrum volumetric solar thermal conversion via graphene/silver hybrid plasmonic nanofluids. *Applied Energy*, *224*(February), 103–115. https://doi.org/10.1016/j.apenergy.2018.04.065

Misale, M., Devia, F., & Garibaldi, P. (2012). Experiments with Al 2O 3 nanofluid in a single-phase natural circulation mini-loop: Preliminary results. *Applied Thermal Engineering*, *40*, 64–70. https://doi.org/10.1016/j.applthermaleng.2012.01.053

Mukherjee, S., Jana, S., Chandra, P., Chaudhuri, P., & Chakrabarty, S. (2021). International Journal of Thermal Sciences Experimental investigation on thermo-physical properties and subcooled flow boiling performance of Al 2 O 3 / water nanofluids in a horizontal tube. *International Journal of Thermal Sciences*, *159*(May 2020), 106581. https://doi.org/10.1016/j.ijthermalsci.2020.106581

Narendar, G., & Charishma, K. T. S. (2022). CFD study on the effect of nanofluids in natural circulation loop. *Materials Today: Proceedings*, *49*, 2116–2123. https://doi.org/10.1016/j.matpr.2021.08.317

Nayak, A. K., Gartia, M. R., & Vijayan, P. K. (2008). An experimental investigation of single-phase natural circulation behavior in a rectangular loop with Al2O3 nanofluids. *Experimental Thermal and Fluid Science*, *33*(1), 184–189. https://doi.org/10.1016/j.expthermflusci.2008.07.017

Nguyen, C. T., Desgranges, F., Galanis, N., Roy, G., Maré, T., Boucher, S., & Angue Mintsa, H. (2008). Viscosity data for Al2O3-water nanofluid-hysteresis: is heat transfer enhancement using nanofluids reliable? *International Journal of Thermal Sciences*, *47*(2), 103–111. https://doi.org/10.1016/j.ijthermalsci.2007.01.033

Pak, B. C., & Cho, Y. I. (1998). Hydrodynamic and heat transfer study of dispersed fluids with submicron metallic oxide particles. *Experimental Heat Transfer*, *11*(2), 151–170. https://doi.org/10.1080/08916159808946559

Peyghambarzadeh, S. M., Hashemabadi, S. H., Naraki, M., & Vermahmoudi, Y. (2013). Experimental study of overall heat transfer coefficient in the application of dilute nanofluids in the car radiator. *Applied Thermal Engineering*, *52*(1), 8–16. https://doi.org/10.1016/j.applthermaleng.2012.11.013

Putra, N., Kusuma, M. H., Antariksawan, A. R., Koestoer, R. A., Verlambang, B. T., & Ismarwanti, S. (2016). Unjuk Kerja Heat Pipe Pada Sistem Pendingin Pasif Di Kolam Bahan Bakar Nuklir Bekas. *Prosiding SENTRA (Seminar Teknologi dan Rekayasa)*, *4*(2), 297–304.

Qiao, K., Tao, H., Li, Y., Zhao, B., Song, C., Li, W., & Cheng, J. (2022). Numerical study on long-term passive heat removal of EPRHR cooling water tank (CWT) using heat pipe heat exchanger. *Annals of Nuclear Energy*, *175*, 109212. https://doi.org/10.1016/j.anucene.2022.109212

Rosidi, A., Kusmoyo, G. B. H., Giarno, G., Haryanto, D., Tjahjono, H., & Juarsa, M. (2021). *VERTIKAL SELAMA PROSES PEMANASAN MENGGUNAKAN HEATER TIPE-PLAT tipe-plat di untai uji RCCS-HTGR . Metode yang*

dilakukan dalam penelitian ini. *05*(01), 1–7.

Sahu, M., Sarkar, J., & Chandra, L. (2020). Transient thermo-hydraulics and performance characteristics of single-phase natural circulation loop using hybrid nanofluids. *International Communications in Heat and Mass Transfer*, *110*(December 2019). https://doi.org/10.1016/j.icheatmasstransfer.2019.104433

Sahu, M., Sarkar, J., & Chandra, L. (2023). Experimental thermal-hydraulic characteristics of single-phase natural circulation loop using water-based hybrid nanofluids. *International Journal of Thermal Sciences*, *187*(January), 108198. https://doi.org/10.1016/j.ijthermalsci.2023.108198

Saleh, R., Putra, N., Wibowo, R. E., Septiadi, W. N., & Prakoso, S. P. (2014). Titanium dioxide nanofluids for heat transfer applications. *Experimental Thermal and Fluid Science*, *52*, 19–29. https://doi.org/10.1016/j.expthermflusci.2013.08.018

Sarafraz, M. M., Arya, A., Nikkhah, V., & Hormozi, F. (2016). *Thermal Performance and Viscosity of Biologically Produced Silver / Coconut Oil Nanofluids*. *30*(4), 489–500. https://doi.org/10.15255/CABEQ.2015.2203

Sharma, R., & Bisht, A. (2020). Effect of buoyancy and suction on Sisko nanofluid over a vertical stretching sheet in a porous medium with mass flux condition. *Indian Journal of Pure and Applied Physics*, *58*(3), 178–188. https://doi.org/10.56042/ijpap.v58i3.23660

Shevaladze, A., Setiawan, P. H., Rosidi, A., Haryanto, D., Heru, G. B. K., P, A. E., R, E. P. A., Tasri, A., & Juarsa, M. (2022). *Analysis of Heat Loss in Water Heating Tanks Based on Temperature Setting Variation During Natural Circulation Flow using FASSIP-02 Test Loop*. *23*(1), 14–22.

Tan, C., Zainal, S., Sian, C. J., & Siang, T. J. (2020). ANSYS simulation for Ag/HEG Hybrid Nanofluid in Turbulent Circular Pipe. *Journal of Advanced Research in Applied Mechanics*, *23*(1), 20–35. https://www.akademiabaru.com/submit/index.php/aram/article/view/1758

Tanaka, F., Juarsa, M., Mishima, K., Murase, M., & Nagae, T. (2004). Experimental Study on Transient Boiling Heat Transfer in an Annulus with a Narrow Gap.

Journal of Nuclear Science and Technology, *41*(3), 279–284. https://doi.org/10.1080/18811248.2004.9715486

Taylor, J. R. (1997). An Introduction to Error Analysis: The Study of Uncertainties in Physical Measurements. In *University Science Books*. https://doi.org/10.4324/9781003200475-13

Tlili, I., Seyyedi, S. M., Dogonchi, A. S., Hashemi-Tilehnoee, M., & Ganji, D. D. (2020). Analysis of a single-phase natural circulation loop with hybrid-nanofluid. *International Communications in Heat and Mass Transfer*, *112*(February), 104498. https://doi.org/10.1016/j.icheatmasstransfer.2020.104498

Vafaei, S., Wen, D., & Borca-Tasciuc, T. (2011). Nanofluid surface wettability through asymptotic contact angle. *Langmuir*, *27*(6), 2211–2218. https://doi.org/10.1021/la104254a

Vijayan, P. K., Nayak, A. K., Saha, D., & Gartia, M. R. (2008). Effect of loop diameter on the steady state and stability behaviour of single-phase and two-phase natural circulation loops. *Science and Technology of Nuclear Installations*, *2008*. https://doi.org/10.1155/2008/672704

Vijayan, P. K., Sharma, M., & Saha, D. (2007). Steady state and stability characteristics of single-phase natural circulation in a rectangular loop with different heater and cooler orientations. *Experimental Thermal and Fluid Science*, *31*(8), 925–945. https://doi.org/10.1016/j.expthermflusci.2006.10.003

Wang, X., & Xu, X. (1999). *Thermal Conductivity of Nanoparticle – Fluid Mixture*. *13*(4).

Wang, Y., Su, G. H., Thermal, E., Science, F., Su, G. H., & Thermal, E. (2016). *Experimental investigation on nanofluid flow boiling heat transfer in a vertical tube under different pressure conditions*. https://doi.org/10.1016/j.expthermflusci.2016.04.014

Welander, P. (1967). *On the oscillatory instability of a differentially heated fluid loop*. *29*(1967), 17–30.

Yu, W., & Xie, H. (2012). A review on nanofluids: Preparation, stability

mechanisms, and applications. *Journal of Nanomaterials*, *2012*. https://doi.org/10.1155/2012/435873