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DAFTAR PUSTAKA

Akan, C. (2012) "Surface Mass Transfer in Large Eddy Simulation (LES) of Langmuir Turbulence," *PhD Dissertation*

Ali Abuelnour, M., Farid Muhamad Said, M. dan Abuelnuor, A.A.A. (2024) "Numerical investigation of hydrogen-diesel dual fuel engine: Combustion and emissions characteristics under varying hydrogen concentration and exhaust gas recirculation," *Fuel*, 377. Tersedia pada: https://doi.org/10.1016/j.fuel.2024.132794.

Ansys Forte User's Guide (2025). Tersedia pada: http://www.ansys.com.

Arthur H. Lefebvre dan Dilip R. Ballal (2010) *Gas Turbine Combustion: Alternative Fuels and Emissions*. 3rd Edition. Boca Raton, FL, USA: CRC Press, Taylor & Francis Group.

Bora, B.J. *dkk.* (2014) "Effect of compression ratio on performance, combustion and emission characteristics of a dual fuel diesel engine run on raw biogas," *Energy Conversion and Management*, 87, hlm. 1000–1009. Tersedia pada: https://doi.org/10.1016/j.enconman.2014.07.080.

Bujana I.G., Wiadnyana K.N. dan Akbar M. (2020) *Kajian Engineering Pengaturan Rasio Kompresi PLTDG Pesanggran*.

Cameretti, M.C. *dkk.* (2022) "CFD Study of Dual Fuel Combustion in a Research Diesel Engine Fueled by Hydrogen," *Energies*, 15(15). Tersedia pada: https://doi.org/10.3390/en15155521.

Cheng, J., Zhu, T. dan Deng, B. (2024) "Effects of Hydrogen Addition on NO_x Formation in a Non-Premixed Methane Low-NO_x Combustor Journal: Mechanical Engineering Journal," *Mechanical Engineering Journal*, 11(2), hlm. 23-00316-23–00316. Tersedia pada: https://doi.org/10.1299/mej.23-00316.

Franco, A. dan Rocca, M. (2024) "Industrial Decarbonization through Blended Combustion of Natural Gas and Hydrogen," *Hydrogen (Switzerland)*, 5(3), hlm. 519–539. Tersedia pada: https://doi.org/10.3390/hydrogen5030029.

Fridriksson, H. *dkk.* (2011) "CFD Investigation of Heat Transfer in a Diesel Engine with Diesel and PPC Combustion Modes," *SAE Technical Paper 2011-01-1838 (JSAE 20119177). Society of Automotive Engineers of Japan, Inc.*

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Hernandez, J.J. *dkk.* (2008) "Selection of a diesel fuel surrogate for the prediction of auto-ignition under HCCI engine conditions," *Fuel*, 87(6), hlm. 655–665. Tersedia pada: https://doi.org/10.1016/j.fuel.2007.05.019.

Heywood, J.B. (2018) *Internal Combustion Engine Fundamentals*. Second Edition. Disunting oleh R.S. Argentieri, Stephen M. Messina, dan Lynn M. New York: McGraw-Hill Education.

IEA, I.E.A. (2023) *Global Hydrogen Review 2023*. Tersedia pada: www.iea.org.

James G. Speight (2020) "Handbook of Industrial Hydrocarbon Processes," dalam *Handbook of Industrial Hydrocarbon Processes*. 2nd Edition. Kidlington, Oxford, United Kingdom: Elsevier. Tersedia pada: https://doi.org/10.1016/b978-0-12-809923-0.01001-8.

Kang, J. *dkk.* (2018) "Effect of operating parameters on diesel/propane dual fuel premixed compression ignition in a diesel engine," *International Journal of Automotive Technology*, 19, hlm. 27–35. Tersedia pada: https://doi.org/10.1007/s12239-018-0003-6

Karagöz, Y. *dkk.* (2016) "Effect of hydrogen-diesel dual-fuel usage on performance, emissions and diesel combustion in diesel engines," *Advances in Mechanical Engineering*, 8(8), hlm. 1–13. Tersedia pada: https://doi.org/10.1177/1687814016664458.

Partridge, K.R. *dkk.* (2024) "A Comparative Experimental Analysis of Natural Gas Dual Fuel Combustion Ignited by Diesel and Poly OxyMethylene Dimethyl Ether," *Energies*, 17(8), 1920. Tersedia pada: https://doi.org/10.3390/en17081920

PT PLN (Persero) (2025) *Rencana Usaha Penyediaan Tenaga Listrik (RUPTL) PT PLN (Persero) Tahun 2025–2034*. Jakarta,.

Shadidi, B., Najafi, G. dan Yusaf, T. (2021) "A review of hydrogen as a fuel in internal combustion engines," *Energies*. MDPI. Tersedia pada: https://doi.org/10.3390/en14196209.

Sjaak van Loo dan Jaap Koppejan (2008) *The Handbook of Biomass Combustion and Co-firing*. 1st Edition. Disunting oleh Sjaak van Loo dan Jaap Koppejan. Earthscan.

Versteeg, H.K. dan Malalasekera, W. (2007) *An Introduction to Computational Fluid Dynamics: The Finite Volume Method*. Second Edition. Harlow: Pearson Education Limited. Tersedia pada: www.pearsoned.co.uk/versteeg.

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Wang, S. *dkk.* (2023) "Evaluation of Hydrogen Addition on Combustion and Emission Characteristics of Dual-Fuel Diesel Engines with Different Compression Ratios," *Processes*, 11(9). Tersedia pada: https://doi.org/10.3390/pr11092675.

Warnatz, J., Maas, U. dan Dibble, R.W. (2006) *Combustion: Physical and Chemical Fundamentals, Modeling and Simulation, Experiments, Pollutant Formation*. 4th Edition. Berlin Heidelberg New York: Springer-Verlag Berlin Heidelberg.

Wartsila Finland Oy (2014) *Engine W50DF Operation Advanced*. Turku.

Wartsila Finland Oy (2014) *Wartsila 50DF Engine Operation and Maintenance Manual (O&MM)*. Vaasa.

Yunus A. Çengel, Michael A. Boles dan Mehmet Kanoğlu (2019) *Thermodynamics: An Engineering Approach*. 9th Edition. New York, NY, United States: McGraw-Hill Education.

Zareei, J. *dkk.* (2020) "The effect of hydrogen addition to compressed natural gas on performance and emissions of a DI diesel engine by a numerical study," *International Journal of Hydrogen Energy*, 45(58), hlm. 34241–34253. Tersedia pada: https://doi.org/10.1016/j.ijhydene.2020.09.027.