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Prarekonfigurasi Optimal Berbasis Reduksi Skenario Hibrida dan Particle Swarm Optimization untuk Peningkatan Kapasitas Hosting PLTS pada Jaringan Distribusi Aktif
Andhika Satria Wibisono, Dr. Wijaya Yudha Atmaja, S.T., M.Eng.; Dr. Ir. Yusuf Susilo Wijoyo, S.T., M.Eng., IPU.
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DAFTAR PUSTAKA

[1] M. Karimi, H. Mokhlis, K. Naidu, S. Uddin, and A. H. A. Bakar, "Photovoltaic penetration issues and impacts in distribution network - a review," *Renewable and Sustainable Energy Reviews*, vol. 53, pp. 594–605, 2016.

[2] M. H. J. Bollen, Y. Yang, and F. Hassan, "Integration of distributed generation in the power system - a power quality approach," in *2008 13th International Conference on Harmonics and Quality of Power*, 2008.

[3] P. González, E. Romero-Cadaval, E. González, and M. A. Guerrero, "Impact of grid connected photovoltaic system in the power quality of a distribution network," in *IFIP Advances in Information and Communication Technology*, 2011, pp. 466–473.

[4] S. Eftekharnejad, V. Vittal, G. T. Heydt, B. Keel, and J. Loehr, "Impact of increased penetration of photovoltaic generation on power systems," *IEEE Transactions on Power Systems*, vol. 28, no. 2, pp. 893–901, 2013.

[5] O. Jeba Singh, D. Prince Winston, B. Chitti Babu, S. Kalyani, B. Praveen Kumar, M. Saravanan, and S. Cynthia Christabel, "Robust detection of real-time power quality disturbances under noisy condition using ftdd features," *Automatika*, vol. 60, no. 1, pp. 11–18, 2019.

[6] A. Dubey, S. Santoso, and A. Maitra, "Understanding photovoltaic hosting capacity of distribution circuits," in *Proc. IEEE Power Energy Soc. Gen. Meeting*, 2015, pp. 1–5.

[7] A. Arshad, M. Lindner, and M. Lehtonen, "An analysis of photovoltaic hosting capacity in finnish low voltage distribution networks," *Energies*, vol. 10, no. 11, p. 1702, 2017.

[8] S. Hajeforosh, A. Khatun, and M. Bollen, "Enhancing the hosting capacity of distribution transformers for using dynamic component rating," *International Journal of Electrical Power & Energy Systems*, vol. 142, p. 108130, 2022.

[9] M. S. Ayaz, M. Malekpour, R. Azizipanah-Abarghooee, M. Karimi, and V. Terzija, "Probabilistic photovoltaic generation and load demand uncertainties modelling for active distribution networks hosting capacity calculations," *International Journal of Electrical Power & Energy Systems*, vol. 159, p. 110016, 2024.

[10] N. Qammar, A. Arshad, R. J. Miller, K. Mahmoud, and M. Lehtonen, "Probabilistic hosting capacity assessment towards efficient pv-rich low-voltage distribution networks," *Electric Power Systems Research*, vol. 226, p. 109940, 2024.

[11] S. Ly, A. Singh, P. Vorobev, Y. C. Soh, and H. D. Nguyen, "Chance-constrained solar pv hosting capacity assessment for distribution grids using gaussian process and logit learning," *International Journal of Electrical Power & Energy Systems*, vol. 170, p. 110783, 2025.

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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

[12] B. Jaramillo-Leon, S. Zambrano-Asanza, J. F. Franco, J. Soares, and J. B. Leite, "Allocation and smart inverter setting of ground-mounted photovoltaic power plants for the maximization of hosting capacity in distribution networks," *Renewable Energy*, vol. 223, p. 119968, 2024.

[13] F. Ding and B. Mather, "On distributed pv hosting capacity estimation, sensitivity study, and improvement," *IEEE Transactions on Sustainable Energy*, vol. 8, no. 3, pp. 1010–1020, 2017.

[14] C. Li, V. R. Disfani, H. V. Haghi, and J. Kleissl, "Coordination of oltc and smart inverters for optimal voltage regulation of unbalanced distribution networks," *Electric Power Systems Research*, vol. 187, p. 106498, 2020.

[15] S. Mahdavi, H. Panamtash, A. Dimitrovski, and Q. Zhou, "Predictive coordinated and cooperative voltage control for systems with high penetration of pv," *IEEE Transactions on Industry Applications*, vol. 57, no. 3, pp. 2212–2222, 2021.

[16] M. R. Jafari, M. Parniani, and M. H. Ravanji, "Decentralized control of oltc and pv inverters for voltage regulation in radial distribution networks with high pv penetration," *IEEE Transactions on Power Delivery*, vol. 37, no. 6, pp. 4827–4837, 2022.

[17] C. Han, D. Lee, S. Song, and G. Jang, "Probabilistic assessment of pv hosting capacity under coordinated voltage regulation in unbalanced active distribution networks," *IEEE Access*, vol. 10, pp. 35 578–35 588, 2022.

[18] E. Dullni, B. Baum, D. Desmond, and C. Heinrich, "The performance of in-service shunt capacitor switching devices as investigated by cigre wg a3.38," in *25th International Conference on Electricity Distribution (CIRED)*, Madrid, Spain, 2019, pp. 1–5.

[19] D. F. Recalde Melo, W. Leguizamon, T. Massier, and H. B. Gooi, "Optimal distribution feeder reconfiguration for integration of electric vehicles," in *Proc. 2017 IEEE PES Innovative Smart Grid Technologies Conference - Latin America (ISGT Latin America)*, Quito, Ecuador, 2017, pp. 1–6.

[20] B. L. M. Santos, L. S. Barros, F. A. Moreira, and D. Barbosa, "Hosting capacity maximization of distributed energy resources through simultaneous optimized volt-var curve and network reconfiguration," *Electric Power Systems Research*, vol. 234, p. 110743, 2024.

[21] J. M. Home-Ortiz, L. H. Macedo, R. Vargas, R. Romero, J. R. S. Mantovani, and J. P. S. Catalão, "Increasing res hosting capacity in distribution networks through closed-loop reconfiguration and volt/var control," *IEEE Transactions on Industry Applications*, vol. 58, no. 4, pp. 4424–4435, 2022.

[22] C. Y. Lau, C. K. Gan, Z. Salam, and M. F. Sulaima, "Impact of solar photovoltaic system on transformer tap changer in low voltage distribution networks," *Energy Procedia*, vol. 103, pp. 58–63, 2016.

[23] C. K. Gan, C. Y. Lau, K. A. Baharin, and D. Pudjianto, "Impact of the photovoltaic system variability on transformer tap changer operations in distribution networks," *CIRED - Open Access Proceedings Journal*, vol. 2017, no. 1, pp. 1818–1821, 2017.

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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

[24] Z. Wang, X. Wang, W. Meng, L. Tang, and S. Liu, "Constraint models of voltage fluctuation limit on oltc/svr caused by dg power fluctuation and generator disconnection to assess their impacts on dg penetration limit," *IET Generation, Transmission & Distribution*, vol. 11, no. 17, pp. 4299–4306, 2017.

[25] C. Li, V. R. Disfani, Z. K. Pecenak, S. Mohajeryami, and J. Kleissl, "Optimal oltc voltage control scheme to enable high solar penetrations," *Electric Power Systems Research*, vol. 160, pp. 318–326, 2018.

[26] B. Jaramillo-Leon, S. Zambrano-Asanza, J. F. Franco, and J. B. Leite, "Simulation-based optimization framework to increase distribution system photovoltaic hosting capacity through optimal settings of smart inverter volt-var control function," *Electric Power Systems Research*, vol. 215, p. 108971, 2023.

[27] D. Chathurangi, U. Jayatunga, S. Perera, A. P. Agalgaonkar, and T. Siyambalapitiya, "Comparative evaluation of solar pv hosting capacity enhancement using volt-var and volt-watt control strategies," *Renewable Energy*, vol. 177, pp. 1063–1075, 2021.

[28] D. L. Schultis, "Comparison of local volt/var control strategies for pv hosting capacity enhancement of low voltage feeders," *Energies*, vol. 12, no. 8, p. 1560, 2019.

[29] B. Mukhopadhyay and D. Das, "Multi-objective dynamic and static reconfiguration with optimized allocation of pv-dg and battery energy storage system," *Renewable and Sustainable Energy Reviews*, vol. 124, p. 109777, 2020.

[30] T. Jayabarathi, T. Raghunathan, N. Mithulananthan, S. H. C. Cherukuri, and G. Loknath Sai, "Enhancement of distribution system performance with reconfiguration, distributed generation and capacitor bank deployment," *Heliyon*, vol. 10, no. 7, p. e26343, 2024.

[31] M. Mahdavi, K. Schmitt, A. Awaafo, M. Chamana, and S. Bayne, "An effective robust strategy for reconfiguring distribution systems considering load and dg uncertainties and demand variability," *IEEE Transactions on Industry Applications*, vol. 60, no. 6, pp. 8103–8114, 2024.

[32] E. Mulenga, M. H. J. Bollen, and N. Etherden, "Solar pv stochastic hosting capacity in distribution networks considering aleatory and epistemic uncertainties," *International Journal of Electrical Power & Energy Systems*, vol. 130, p. 106928, 2021.

[33] H. Wu, Y. Yuan, X. Zhang, A. Miao, and J. Zhu, "Robust comprehensive pv hosting capacity assessment model for active distribution networks with spatiotemporal correlation," *Applied Energy*, vol. 323, p. 119558, 2022.

[34] J. Villavicencio Gastelu, J. B. Leite, and J. D. M. Trujillo, "Estimation of photovoltaic hosting capacity by spatial dependence on adhesion of consumers," in *Proc. 21st LACCEI International Multi-Conference for Engineering, Education and Technology*, Buenos Aires, Argentina, 2023, pp. 1–6.

[35] N. Shabbir, L. Kütt, V. Astapov, K. Daniel, M. Jawad, O. Husev, A. Rosin, and J. Martins, "Enhancing pv hosting capacity and mitigating congestion in distribution networks with deep learning based pv forecasting and battery management," *Applied Energy*, vol. 372, p. 123770, 2024.

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[36] A. Saxena and V. Gupta, "A hybrid particle swarm optimization approach for design power system stabilizer," *International Journal of Engineering and Technology*, vol. 2, no. 6, pp. 524–528, 2010.

[37] A. Y. Abdelaziz, F. M. Mohammed, S. F. Mekhamer, and M. A. L. Badr, "Distribution systems reconfiguration using a modified particle swarm optimization algorithm," *Electric Power Systems Research*, vol. 79, no. 11, pp. 1521–1530, 2009.

[38] T. T. de Oliveira, M. H. J. Bollen, and N. Etherden, "A hosting capacity based approach toward distribution system planning for high pv penetration," *Electric Power Systems Research*, vol. 238, p. 111138, 2025.

[39] M. G. Mahairi, B. Mohamed, X. Domínguez, A. Miranda, and P. Arboleya, "Holistic framework for real-world management of hosting capacity in low-voltage distribution networks," *Sustainable Energy, Grids and Networks*, vol. 44, p. 102026, 2025.

[40] W. H. Kersting, *Distribution System Modeling and Analysis*, 4th ed. Boca Raton, FL, USA: CRC Press, 2018.

[41] J. J. Grainger and W. D. Stevenson, *Power System Analysis*. New York, NY, USA: McGraw-Hill, 1994.

[42] M. I. B. Setyonegoro, R. Irnawan, L. M. Putranto, E. Firmansyah, W. Y. Atmaja, N. Adi, Z. Arifin, R. Gusti, D. Prastianto, and Sarjiya, "Study of rooftop pv hosting capacity in 20 kv systems in facing distributed generation penetration," *Results in Engineering*, vol. 23, p. 102517, 2024.

[43] H. M. A. Antunes, H. R. Torquato, J. M. S. Callegari, L. S. Araujo, and D. I. Brandao, "Hosting-capacity improvement using rooftop photovoltaics and decentralized bess in low voltage grids," *IEEE Access*, vol. 13, pp. 67 286–67 300, 2025.

[44] B. Li and J. Zhang, "A clustering based scenario generation method for stochastic power system analysis," in *Proc. 2019 IEEE Power and Energy Society General Meeting (PESGM)*, Atlanta, GA, USA, 2019, pp. 1–5.

[45] Y. Tan, Q. Zhang, L. Shi, N. Yu, and Z. Qian, "A novel short-term wind power scenario generation method combining multiple algorithms for data-missing wind farm considering spatial-temporal correlativity," *International Journal of Electrical Power & Energy Systems*, vol. 162, p. 110227, 2024.