

- [1] W. G. Flores Ruiz and C. R. Tapia Farfan, “Shielding angle effectiveness analysis on 220 kv and 500 kv transmission lines against lightning strikes, including hillside considerations,” in *2024 IEEE Biennial Congress of Argentina (ARGENCON)*. IEEE, 2024, pp. 1–6. [Online]. Available: <https://ieeexplore.ieee.org/document/10735900/>
- [2] D. Wu, Z. Ji, and J. Wang, “Simulation and experimental analysis of multi-chamber arc-quenching arresters (mcaa) for 10 kv transmission lines,” *Energies*, vol. 14, no. 19, p. 6185, 2021. [Online]. Available: <https://doi.org/10.3390/en14196185>
- [3] A. Mubarok, H. Fitrianto, and E. Khairizvan, “Analisis statistik gangguan akibat sambaran petir yang terjadi pada saluran transmisi di pln unit pelaksana transmisi (upt) semarang,” *Jurnal Energi dan Ketenagalistrikan*, vol. 1, no. 2, 2023.
- [4] M. Moradi, H. Abdi, and A. Atefi, “Analyzing and modeling the lightning transient effects of 400 kv single circuit transmission lines,” *International Journal of Science and Engineering Investigations*, vol. 2, p. 19, 2013. [Online]. Available: <https://ijsei.com/papers/ijsei-21913-11.pdf>
- [5] N. Zawani, I. Junainah, and M. Faizuhar, “Modelling of 132kv overhead transmission lines by using atp/emtp for shielding failure pattern recognition,” *Procedia Engineering*, vol. 53, pp. 278–287, 2013.
- [6] S. Piliškić, I. Uglešić, and B. Jurišić, “Evaluating the overvoltage performance of an overhead line taking into account the frequency-dependence of its tower’s grounding electrodes with high soil resistivity,” *International Journal of Electrical Power & Energy Systems*, vol. 116, p. 105547, 2020.
- [7] “Guide to procedures for estimating the lightning performance of transmission lines,” CIGRÉ Study Committee 33, Tech. Rep. SC33-10, 1991.
- [8] M. Ishii, T. Kawamura, T. Kouno, E. Ohsaki, K. Shiokawa, K. Murotani, and T. Higuchi, “Multistory transmission tower model for lightning surge analysis,” *IEEE Transactions on Power Delivery*, vol. 6, pp. 1327–1335, 1991.
- [9] Feranita, M. L. A. Jefri, and F. Murdiya, “The effect of lightning characteristics on the occurrence of back flashover on a 150 kv transmission line using atpdraw,” in *2022 3rd International Conference on Electrical Engineering and Informatics (ICon EEI)*. Pekanbaru, Indonesia: IEEE, 2022, pp. 15–19. [Online]. Available: <https://ieeexplore.ieee.org/document/9972247/>
- [10] E. A. Mahdiraji, “Investigation of overvoltages caused by lightning strikes on transmission lines and gis substation equipment,” *Computational Research Progress in Applied Science and Engineering (CRPASE)*, vol. 6, pp. 238–244, 2020.
- [11] S. Visacro and F. H. Silveira, “Review of measures to improve the lightning performance of transmission lines,” *Electric Power Systems Research*, vol. 213, p. 108729, 2022. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S037877962200788X>

- [12] N. Y. Ahmed, H. A. Illias, and H. Mokhlis, "A protocol for selecting viable transmission line arrester for optimal lightning protection," *Electric Power Systems Research*, vol. 221, p. 109489, 2023. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S0378779623003784>
- [13] W. S. Castro, I. J. S. Lopes, S. L. V. Missé, and J. A. Vasconcelos, "Optimal placement of surge arresters for transmission lines lightning performance improvement," *Electric Power Systems Research*, vol. 202, p. 107583, 2022. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S0378779621005642>
- [14] E. Kuffel, W. S. Zaengl, and J. Kuffel, *High Voltage Engineering: Fundamentals*, 2nd ed. Oxford, Boston: Butterworth-Heinemann, 2000.
- [15] K. Schön, *High Impulse Voltage and Current Measurement Techniques: Fundamentals – Measuring Instruments – Measuring Methods*. Heidelberg: Springer International Publishing, 2013. [Online]. Available: <https://link.springer.com/10.1007/978-3-319-00378-8>
- [16] M. S. Naidu and V. Kamaraju, *High Voltage Engineering*, 2nd ed. New Delhi, Hamburg: Tata McGraw-Hill, 2000.
- [17] Fransisco, "Perhitungan jumlah gangguan pada isolator transmisi akibat sambaran petir langsung (studi kasus: Transmisi 275 kv galang-binjai)," Master's thesis, Department of Electrical Engineering, Universitas Sumatera Utara, Medan, Indonesia, 2012.
- [18] V. K. Mehta and R. Mehta, *Principles of Power System: Including Generation, Transmission, Distribution, Switchgear and Protection: for B.E/B.Tech., AMIE and Other Engineering Examinations*. New Delhi: S. Chand Publishing, 2005.
- [19] E. Stracqualursi, G. Pelliccione, S. Celozzi, and R. Araneo, "Tower models for power systems transients: A review," *Energies*, vol. 15, no. 13, p. 4893, 2022. [Online]. Available: <https://www.mdpi.com/1996-1073/15/13/4893>
- [20] K. Berger, "Das verhalten von erdungen unter hohen stossströmen," *Bulletin de l'Association Suisse des Electriciens (SEV)*, vol. 37, p. 197, 1946.
- [21] A. V. Korsuntcev, "Application of the theory of similitude to the calculation of concentrated earth electrodes," *Elektrichestvo*, vol. 5, p. 31, 1958.
- [22] E. E. Oettle, "A new general estimation curve for predicting the impulse impedance of concentrated earth electrodes," in *IEEE 87 SM 567-1*, 1987.
- [23] K. H. Weck, "Lightning performance of substations," in *CIGRÉ SC 33 Conference*, Rio de Janeiro, Brazil, 1981.
- [24] A. Pignini and et al., "Performance of large air gaps under lightning overvoltages: Experimental study and analysis of accuracy of predetermination methods," in *IEEE Paper 88 SM 592-8*, 1988, p. 9.
- [25] C. F. Wagner and A. R. Hileman, "A new approach to the calculation of the lightning performance of transmission lines iii—a simplified method: Stroke to tower," *AIEE Transactions on Power Apparatus and Systems*, vol. 79, pp. 589–603, 1960.

- [26] M. A. Sargent and M. Darveniza, "Tower surge impedance," *IEEE Transactions on Power Apparatus and Systems*, vol. PAS-88, pp. 680–687, 1969.
- [27] W. A. Chisholm, Y. L. Chow, and K. D. Srivastava, "Surge response of transmission towers," *Canadian Electrical Engineering Journal*, vol. 7, pp. 34–36, 1982.
- [28] T. Hara and O. Yamamoto, "Modelling of a transmission tower for lightning-surge analysis," *IEE Proceedings - Generation, Transmission and Distribution*, vol. 143, pp. 283–289, 1996.
- [29] T. Yamada, A. Mochizuki, J. Sawada, E. Zaima, T. Kawamura, A. Ametani, M. Ishii, and S. Kato, "Experimental evaluation of a uhv tower model for lightning surge analysis," *IEEE Transactions on Power Delivery*, vol. 10, pp. 393–402, 1995.
- [30] *IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System*, IEEE Std. IEEE Std 81-2012 (Revision of IEEE Std 81-1983), 2012.
- [31] *Lightning Protection Guide*, 3rd ed. Neumarkt, Germany: Dehn + Söhne, 2014.
- [32] EMTP, "Emtp," <https://emtp.com/>, 2024, accessed: 2024.
- [33] F. Hasan and M. R. Kabir, "Simulation & analysis of metal oxide surge arrester using emtp," Jan. 2016.
- [34] N. Y. Ahmed, H. A. Illias, H. Mokhlis, D. Fahmi, and N. Abdullah, "Flashover pattern analysis for 275 kv double circuit transmission lines during direct lightning strikes," *Electric Power Systems Research*, vol. 228, p. 110104, 2024. [Online]. Available: <https://doi.org/10.1016/j.epsr.2023.110104>