

The peculiarities of the steady state modes of medium voltage cables grid at various neutral grounding and single-phase to ground failure

Valeriu Bosneaga, Victor Suslov, Ion Stratan, Ina Dobrea

<https://doi.org/10.1109/EPE56121.2022.9959817>

Abstract

The work is devoted to the study of medium voltage cable line with isolated and compensated neutral in the MATLAB package. Some inherent patterns of voltage and current changes in the circuit are revealed when the damage resistance varies at different points of the line.

Keywords: cable distribution networks, steady state modes, isolated neutral, compensated neutral, single-phase failure

References

1. R. Willheim and M. Waters, "Neutral grounding in high-voltage transmission", *Introduction by R. Rüdenberg*, pp. 415, 1959.
[Google Scholar](#)
2. F.A. Likhachev, "Earth faults in networks with isolated neutral and compensation of capacitive currents", *Energy*, pp. 152, 1971.
[Google Scholar](#)
3. I.M. Sirota, S.N. Kislenko and A.M. Mikhailov, "Neutral modes of electrical systems", *Kyiv: Publishing House of the Academy of Sciences of the USSR*, pp. 264, 1985.
[Google Scholar](#)
4. R.A. Weinstein, N.V. Kolomiets and Shestakova V.V. Tomsk, "Neutral grounding modes in electrical systems", *TPU publishing house*, pp. 118, 2006.
[Google Scholar](#)
5. G.A. Evdokunin and S.S. Titenkov, "Resistive grounding of the neutral of networks 6-10 kV", *publishing house Tertiya*, pp. 264, 2009.
[Google Scholar](#)
6. "Theoretical basics of electrical engineering", *Bessonov L.A. Publishing House Higher School*, pp. 752, 1973.
[Google Scholar](#)