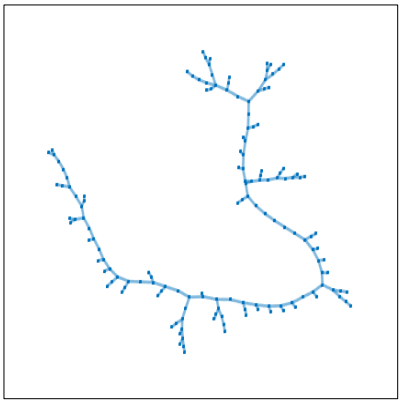

Fig. 7: The topological representation of Cluster 1 (NC1)

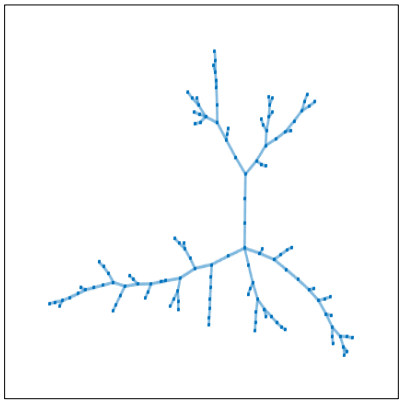

Fig. 8: The topological representation of Cluster 2 (NC2)

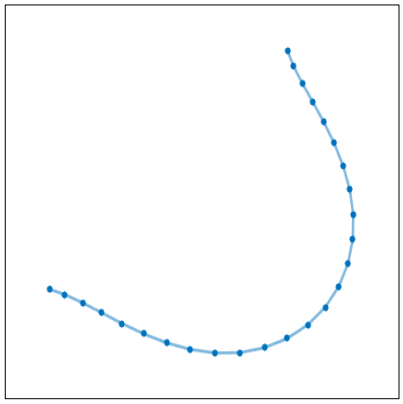

Fig. 9: The topological representation of Cluster 3 (NC3)

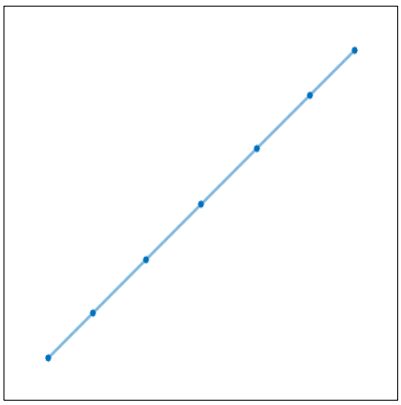

Fig. 10: The topological representation of Cluster 4 (NC4)

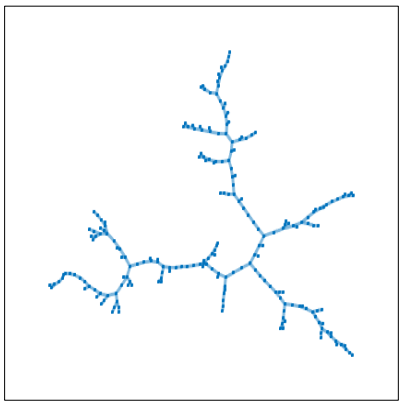

Fig. 11: The topological representation of Cluster 5 (NC5)

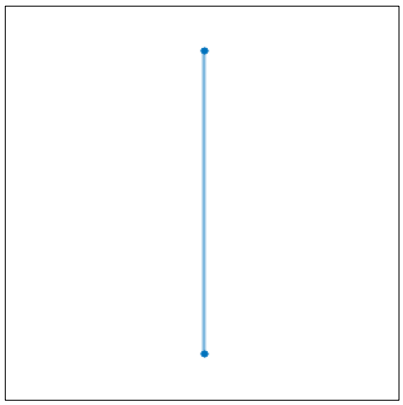

Fig. 12: The topological representation of Cluster 6 (NC6)

The data processing method presented in the present paper is suitable for clustering networks that cover a larger area (country), developing network topologies specific to the examined area.

The method created here to generate medium voltage distribution network models can be used to simulate the effects of the growing photovoltaic penetration in the Hungarian medium voltage distribution network system. The results can also help to model the voltage and power changing effects on these networks. The effects of the growing electrical car and energy storage penetration and the opportunities for smart grid development can also be simulated.

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