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## Integration of Decentralized Generation into Distribution Networks

Analysis and Optimization of Medium Voltage Distribution Networks with Integration of Decentralized Generation



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Within the framework of the thesis, an analysis and optimization of MV distribution networks with interconnection of DG units have already been introduced. The VDEW standard load profiles for households and commercials are found in the simulation. In the second part a new methodology for integration of the DG units in order to enhance the voltage limit loadability is usually presented. The target function of the proposed algorithm is normally minimizing the energy losses. In the last portion of the thesis, a new methodology for ideal reconfiguration of the MV network with the living of different DG technology is provided. The proposed methodology applying C++ and NEPLAN software is established for optimizing the switching state of the network where in fact the load and era profiles are taken into consideration. In the third component, investigations on the implications of Distributed Wind Power Era (DWPG) on voltage ranges, voltage profiles, and energy losses of a real MV distribution network are presented. In the first part, investigations of the impacts of DG unit's interconnection on the loadability of MV distribution systems are introduced.



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