## Multi-objective Evolutionary Algorithms for Decision-Making in Reconfiguration Problems Applied to the Electric Distribution Networks

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**Abstract:** In this work the performance of three multiobjective optimization techniques based on evolutionary programming, applied to distribution network reconfiguration problems, are evaluated. The proposed model takes into account the power losses and the reliability index as minimization objectives. Due to their proven ability to find the commitment solution sets in multi-objective problems and due to the adaptability of techniques based on the Genetic Algorithms applied to reconfiguration processes the following algorithms were chosen: Microgenetic Algorithms, Non-Dominated Sorting Genetic Algorithm 2 and Strength Pareto Evolutionary Algorithm 2. The results of this research show the effectiveness of the SPEA 2 to solve this problem.

Keywords: Evolutionary algorithms, Multiobjective, Reconfiguration.