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| **Abstract:** |  |
| The energy is obtained to the primary and  secondary substations during high demand, using dynamic  weight-based load. The shifting algorithms minimize demand  by shifting the load, maximizing utilization and enhancing  load factor efficiency by distributing loads over various time  frames. Maintaining stable demand and increasing users'  consumption is a cost-effective way of increasing output while  maximizing the usage of electricity. The load factor would  improve in both cases and, thus, reduce the average unit cost  per kWh. The main factors in establishing the theory of  optimal energy usage are high energy use and the depletion of  established energy resources. The existing algebraic theory  model approach is incapable of properly optimizing the load  factor for a large distribution network, resulting in excessive  load energy consumption. To solve this issue, this article  proposes many load factor optimization methods. The trend of  the grid's load curve is studied in order to achieve the grid's  optimum load factor management under various situations.  The simulation findings indicate that the Genetic Algorithm  approach performs better in terms of control performance and  accuracy while optimizing load factors. | |