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**A Comparative and Novel Solution for Unit Commitment Problem Using Hybridised BAT Search Approach for 10-Unit System**

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**Abstract**

To model a most cost effective and reliable power system, the committing of generating units with least cost is done through proper selection of heuristic/meta-heuristic optimisation. For security constrained unit commitment (SCUC) problem, here the solution is formulated by defining both equality and inequality constraints of the considered system (minimum up- down times, power balance, spinning reserve etc.). In this paper, the solution is subjected to generate an optimal solution using Hybridised- BAT search algorithms for 10- unit systems.  The reduced optimal cost values are compared with reviewed heuristic techniques using MATLAB platform, to assure the proposed technique’s effectiveness.

**Keywords:**

Security constrained unit Commitment, BAT algorithm, BAT-GA algorithm, BAT- ABC algorithm, Constraints

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