

# **Using the modified bacteria nutrition algorithm to solve the problem in the orbiting of power plants with regard to exploitation constraints**

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To respond energy demands, dimensions of electrical power systems are growing rapidly. To power system load, many of power stations connect in parallel. With development of power systems, it's essential that production units operate economically. Therefore, will be faced with unit commitment. The issue of unit commitment in power systems to determine of optimal combination setup all production units are used that aim is reduce cost of unit commitment in defined deadline with observing all aspects. There are many methods for solving issue of unit commitment e.g. precedence(priority)method, dynamic planning method. Despite the changes about the issue of unit commitment such as use of complex functions for modeling units, attention to aspects of utilization, power systems large dimensions..., in fact this method can't be used to achieve optimal result. Recently a heuristic method as bacterial foraging algorithm introduce to solve optimization issues and many other issue. In this dissertation after explaining the method of bacterial foraging, a new modified algorithm to solve several system with concave objective function, consideration and attention of operation such as slope rate limit and duration blackout are used. The proposed method had optimal results and have compared with well-known method.

**Keywords : Bacteria - Power plants - Food-processing algorithm**

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