Abstract

This paper proposes a design of Artificial Bee Colony (ABC) algorithm based Proportional plus Integral controller using Area Requirement (AR) Criterion for the Load Frequency Control of a two area multi unit interconnected thermal reheat power system without and with Gas Turbine unit. The system was simulated and the output responses of the frequency deviations, tie-line power deviation and control input deviations for 1% step load disturbance in area 1 were obtained. The simulations results reveals that the two area multi unit interconnected thermal reheat power system incorporated with Gas Turbine unit ensure a better transient response and smaller settling time.

References

- I. P. Kumar, D. P. Kothari, "Recent Philosophies of automatic generation control strategies in power systems", IEEE Transactions on Power System, Vol. 20, No. 1, 2005,
Area Requirement based Load Frequency Controller using Artificial Bee Colony Algorithm for a Two Area Interconnected Power System


**Index Terms**

Computer Science  
Power Systems
### Keywords

- Artificial Bee Colony
- Proportional – Integral controller
- Area Requirement criterion
- Load-Frequency Control