



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

ACADEMIC YEAR 2021-22 ODD

Internal IEEE Seminar – Report

Title of the Webinar	: “Optimal Installation of Multiple DG Units Using Competitive Swarm Optimizer (CSO) Algorithm”
IEEE Paper Details	: IEEE Congress on Evolutionary Computation (CEC), Page(s): 3955-3960, Year: 2016
Date	: 08.12.2021
Resource Person	: Dr. R. Arulraj, AP/EEE, KCE
Beneficiaries	: EEE Faculty Members- 7

On behalf of Department of EEE, IEEE Branch has organized Internal Seminar on “Optimal Installation of Multiple DG Units Using Competitive Swarm Optimizer (CSO) Algorithm” for faculty members, Department of EEE on 08.12.2021. The main objective of the internal seminar is to provide exposure to various research areas in evolutionary algorithms to our faculty members.

During the session the resource person discussed the importance of evolutionary algorithm in the field of Power System Engineering. He explained the importance of Competitive Swarm Optimizer algorithm which is an enhanced and modified version of Particle Swarm Optimization algorithm. He pointed out the drawbacks and weakness in Particle Swarm Optimization algorithm and how it is eliminated in the improved version of Competitive Swarm Optimizer algorithm while solving large scale optimization problems.

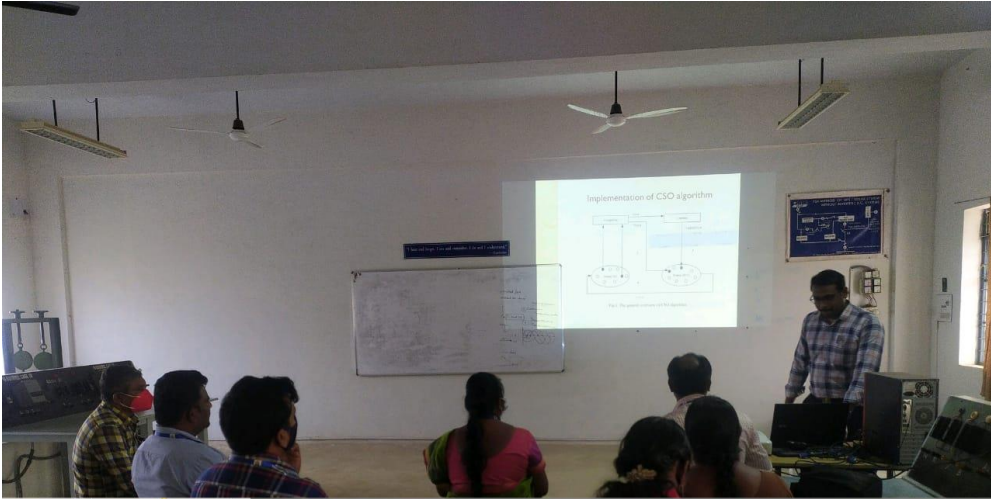
In order to provide deeper insight on the optimization technique, he explained the application of Competitive Swarm Optimizer algorithm in solving optimal Distributed Generation (DG) allocation problem in the distribution network. In the optimal DG planning problem, he provided a detailed explanation on formulation of system total power loss objective function along with various technical constraints

involved in the optimization process. Moreover, he described the enhancement done in exploration and exploitation capabilities of Competitive Swarm Optimizer algorithm using necessary equations. Furthermore, he explained the optimal DG planning problem using a neat flowchart in order to analyse the various computational steps involved in the optimization process of Competitive Swarm Optimizer algorithm. The simulation results along with convergence curve and computational time is explained to show the effectiveness of the solution technique in DG allocation problem. He also presented a detailed comparison report on the superiority of Competitive Swarm Optimizer algorithm over other existing optimization techniques in literature and also over different variants of Particle Swarm Optimization algorithm.

Finally he demonstrated the application of Competitive Swarm Optimizer algorithm in solving large scale optimization problems in different Engineering domains. At the end of the session faculties asked questions regarding implementation of Competitive Swarm Optimizer algorithm in different areas of Power Engineering and also expressed their willingness to publish research papers using Competitive Swarm Optimizer algorithm in near future.

Snapshots from Seminar:





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