

To design an optimized renewable energy source based grid integration system to mitigate the power quality issues

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In the modern era, environmental issues and energy demands are increased due to the Power quality issues for Renewable Energy Sources (RES). Moreover, RES system is linked to the grid system to meet the integrated design parameters and load demand conditions. The main power quality issues are (i) frequency and voltage fluctuations, (ii) harmonics distortion. These issues are introduced by power electronics gadgets used in RES. Therefore, to control the power quality issues Fuzzy logic controller based Grey Wolf optimization model is developed. Then, the random forest algorithm (RFA) is integrated with developed model to optimize the power quality problems on off grid system. Moreover, power quality enhancement strategies are used to enhance the RES with grid connected system performance. Consequently, present research implementation is performed in MATLAB/Simulink platform and performance were analyzed. Then, the proposed model is validated with other optimization strategy as well as control strategies to prove the effectiveness of the proposed mode.

Biography

Dr.Siva Shankar S is Currently working as an Associate Professor and Dean Foreign Affairs in the Department of Computer Science and Engineering, KG Reddy College of Engineering and Technology, Hyderabad, Telangana, INDIA.He completed his B.Tech in Anna University, M.Tech in MS University and Ph.D in BHARATH University. He has Completed his Post doc Research in Industrial University of HO Chi Minch, Vietnam. He has published 20+ Journal papers and 20+ Patents. He got awarded for highest number of patents filed in the year 2019 by Indian Book of Records. His research interest includes security, Renewable Energy, Image processing and Data Analytics.