

# Power Quality Improvement in WECS using ANN – Statcom

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**Abstract:** The major concern in a growing power quality is harmonics distortion which is caused by the non-linear nature of the loads. This problem has drawn much attention from utilities, users and industries. To reduce the harmonic distortion for improving the power quality of the system a custom power devices has been proposed. A static compensator (STATCOM) is implemented at distribution level for overcoming several power quality problems. In this paper, new control technic i.e AI is proposed on shunt compensator to estimates the weight values of load currents. The control approach is based on the convergence of the load currents and property of the input signal. A prototype of Ann based STATCOM is implemented using three-phase VSC and AI control technique based PWM controller approach is developed in MATLAB/SIMULINK.

**Index Terms** – WECS, AI Technique, Power Quality, THD, STATCOM and VSC



DOI of the Article: <https://doi.org/10.46501/IJMTST0707025>



Available online at: <http://www.ijmtst.com/vol7issue07.html>



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**To Cite this Article:**

D.Dhana Prasad; B.Leela Chandini; S.Mahesh; S.Sai Naveen and S.Madhu Babu. Power Quality Improvement in WECS using ANN – Statcom. *International Journal for Modern Trends in Science and Technology* 2021, 7, 0707059, pp. 160-165. <https://doi.org/10.46501/IJMTST0707025>

**Article Info.**

Received: 24 May 2021; Accepted: 6 July 2021; Published: 17 July 2021