



## A CASE STUDY

# Stability enhancement of AC microgrid using multi-band stabilizers

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**Abstract :** In this study, the functionality of a grid-connected AC microgrid with four distribution generators (DG) units is examined. The AC microgrid must respond rapidly during an islanding operation to preserve overall system stability. A grid-connected AC microgrid is used to examine the overall performance of the PSSs in minimizing electromechanical oscillation, including —PSS, Pa-PSS, and Multi-band PSS (MB-PSS4B and MB-PSS2B). Multi-band PSS provides better dampening performance than other PSSs when Gaussian and colored noise are measured in the system. MATLAB/SIMULINK software is used to simulate an AC Microgrid that is connected to the grid and to track how well different PSS are working. The simulation results show that Multi-band PSSs outperform traditional PSSs (CPSS) in a variety of situations.

**Key Words :** AC microgridm Using multi-band stabilizers

**View Point Article :** Gaur, Dhairya, Bhadu, Mahendra and Bansal, S.K. (2023). Stability enhancement of AC microgrid using multi-band stabilizers. *Internat. J. agric. Sci.*, **19** (2) : 748-754, DOI:10.15740/HAS/IJAS/19.2/748-754. Copyright@2023: Hind Agri-Horticultural Society.

**Article History :** Received : 28.04.2023; Accepted : 14.05.2023

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