

# **Abstract**

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## **DSP-based Simple Technique For Synchronization Of 3 Phase Alternators With Active and Reactive Power Load Sharing**

Automatic coupling of 3 phase synchronous alternators to infinite bus AC grid has been discussed and studied, analytically and practically as a case study, to deepen concept of distributed alternators control. The paper introduces an experimental setup for alternator synchronization with active and reactive power control scheme, as a laboratory guide to be followed by engineers in real power stations in distributed generation. Through Matlab Simulink simulation analysis and practical results based on digital signal processor, the proposed prototype setups have been evaluated for different operation scenarios.