



# AIUB DSpace Publication Details

Title	A Comparative Stability Analysis Between AC System with Compensation and Simultaneous AC-DC System		
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Published Journal Name	<i>Journal of Power Electronics and Devices</i>		
Type of Publication	Journal		
Volume	6	Issue	1
Publisher	MAT Journals Pvt. Ltd		
Publication Date	April 2020		
ISSN			
DOI			
URL	<a href="http://matjournals.co.in/index.php/JOPED/article/view/3787">http://matjournals.co.in/index.php/JOPED/article/view/3787</a>		
Other Related Info.	Page 18-27		



## Abstract

The performance of a long AC transmission system can be improved by the application of series compensation technique. The amount of capacitive compensation is highly restricted due to sub synchronous resonance problem. Due to some limitations of this technique another new concept is emerging which is known as simultaneous AC-DC power transmission system. Simultaneous AC-DC system is a kind of system where DC power is mixed with AC power and transferred through the AC transmission line. Both the techniques have the capability to improve the loadability and stability of existing AC transmission line. This paper presents a rigorous comparative analysis between these two techniques in stability point of view. In doing so, some power systems are considered and numerical results are compared through the application of both the techniques. What would be the relationship of the line parameters like thermal limit, line voltage and line length with the performance, in terms stability improvement of the techniques are critically analyzed.