



# AIUB DSpace Publication Details

<b>Title:</b>	Hybrid islanding detection technique for distribution network considering the dynamic behavior of power and load
<b>Author(s) Name:</b>	Umme Kulsum Jhuma, Saad Mekhilef, Marizan Mubin, Shameem Ahmad, Muhyaddin Rawa, Yusuf Alturki
<b>Contact Email(s):</b>	ahmad.shameem@aiub.edu
<b>Published Journal Name:</b>	International Journal of Circuit Theory and Applications
<b>Type of Publication:</b>	Journal
<b>Volume:</b>	50 Issue 4
<b>Publisher:</b>	MDPI
<b>Publication Date:</b>	05/04/2022
<b>ISSN:</b>	1097-007X
<b>DOI:</b>	10.1002/cta.3181
<b>URL:</b>	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/cta.3181">https://onlinelibrary.wiley.com/doi/abs/10.1002/cta.3181</a>
<b>Other Related Info.:</b>	Page 1317-1341, ISI and Scopus indexed



# AIUB DSpace Publication Details

## Abstract:

Nowadays, distributed generation (DG) has become an indispensable part for meeting the growing power demand in electrical power generation and distribution. However, one of the drawbacks of DG is unintentional islanding phenomena, which has become a safety issue for both human and equipment connected to the system. To prevent this hazardous condition, according to IEEE 1547 standards, this islanding condition must be detected within 2 s. This paper proposed an approach to develop a hybrid islanding detection method (IDM) to prevent the damages caused by this islanding condition. The proposed hybrid IDM is a combination of three different IDMs, two passive and one active; that is, rate of change of active power (ROCOAP) and rate of change of reactive power (ROCORP) are passive IDMs where load connecting strategy (LCS) is active. To differentiate islanding conditions with similar occurrences, different case studies are taken into account with photovoltaic (PV) and synchronous generator (SG) working as distributed generators on PSCAD/EMTDC platform. The simulation results confirm that proposed IDM is more favorable compared to other IDMs due to simplicity and fast islanding detection time when its performance is tested on the 11-kV Malaysian distribution system for various cases.