Isolated microgrids have received much attention in recent years due to their ability for electrifying zones typically disconnected from the main grid. Among the most important challenges of isolated microgrids is the design and operation of the protection scheme, in order to recognize system abnormalities and faults.

It is necessary to rethink protection schemes to adequately respond to the requirements of isolated microgrids.

The proposed method combines monitoring with protection strategies in an Adaptive Protection Scheme in order to coordinate the response of the protections accordingly.

This methodology is being implemented in the ESUSCON Microgrid in Huatacondo.

Currently, the microgrid has a protection system based on circuit breakers with fixed setting for overload and short circuit protections. PV Plant includes fuses in the DC-side for the protection of the modules.

PV Plant includes fuses in the DC-side for the protection of the modules.

Conclusions

This poster presents a method for monitoring and diagnosis of PV plant based on a model as part of an adaptive protection scheme designed for isolated grids. The experimental results showed that the proposed method is effective to diagnose the PV plant of an isolated grid. Finally, the analysis of the microgrid showed the need for an adaptive protection scheme.