

DIFFERENT OPTIMIZATION TECHNIQUES OF WIRELESS MESH NETWORKS FOR PHOTOVOLTAIC APPLICATION

Masud R. Rashel^{1,2}*, Oumaima Mesbahi^{1,2}, Md Tofael Ahmed^{1,2}, Mouhaydine Tlemcani^{1,2} and Fernando Janeiro¹

1: Department of Mechatronics School of Science University of Evora Rua Romão Ramalho, n°59 7000-671, Evora, Portugal

2: Institute of Earth Science (ICT) University of Evora Rua Romão Ramalho, nº59 7000-671, Evora, Portugal

e-mail: mrashel@uevora.pt, web: http:// https://www.icterra.pt/

e-mail: {omesbahi, ahmed, tlem, fmtj}@uevora.pt web: http:// https://www.icterra.pt/

Keywords: Photovoltaic Network, Optimization Techniques, Wireless Mesh Networks, Routing, Mesh Router Node.

Abstract: With the advancement of technology the internet technology is evolving and it is facing new challenges to the betterment of the quality of service. Mesh Networks are an important topology where the fixed wireless network is established to provide network services. Wireless Mesh Network (WMN) is getting acknowledgment for advanced networking purposes. Mainly performance of this kind of network is dependent on the assignment of the channel and the scheme of routing. The photovoltaic network is a new concept that is combined with the Internet of Things to take advantage of the panel's monitoring system. Large-scale WMN, combined with a photovoltaic system requires optimization techniques to improve the quality and efficiency of service. Covering and sharing information between all nodes in the network is crucial for PV and the Internet of Things (IoT). Power consumption is a significant part of low-power WMN and IoT. This article provides different optimization techniques and analyzes different algorithms to understand the better solution for a wireless mesh network in the ground of photovoltaic networking.