



**THE DEVELOPMENT ON THE TEMPERATURE CHARACTERIZATION OF
TRIPLE EXPOSURE BOX TYPE SOLAR COOKER**

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ABSTRACT

The use of solar cooker is much needed in many regions with good solar radiation intensity throughout the world. The reasons are economical, as the price of fuel for cooking is no longer affordable by many families, ecological as in many regions deforestation is also associated with the use of wood as an energy source, and social as the money used to buy fuel could be used to buy foods, medications and other needs to improve the quality of life. The objective of this research is to determine the temperature and efficiency of the solar cooker, besides that the heat retain inside the solar cooker also can be determine. It will show the highest temperature that can be achieved and duration for the heat retain inside the solar cooker. The solar cookers also have the relationship with the green house and the solar thermal. The consideration for both relations is importance to increase the solar cooker performance. The triple exposure solar cooker is testing by using the thermocouples and pocket logger models XR440. Thermocouples are used to determine the reading for temperature, relative humidity and pressure, it has been place at every bottom corner inside the solar cooker. The pocket logger is used to collect and save the data for every five minutes, the data will appear in graph form. Then the graph will be compared to the Photovoltaic Monitoring Center (PVMC) graph data based in Universiti Teknologi Mara, Shah Alam. It shows that the increasing temperature inside the solar cooker is directly proportional with increasing radiation from the sunlight. Therefore for the better performance of the solar cooker the radiation should be more than 800 W/m^2 . It can be concluded that the Malaysia climate have the potential and suitable for solar cooker development.

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