

With the development of technology have increased the energy requirements of the planet so it is imperative to find ways of producing energy which in first grade do not pollute the environment like burning hydrocarbons or nuclear energy and secondary it is necessary to renewable energy sources. One friendly and renewable energy source is the sun which we exploit to use inorganic photovoltaics Si but their creation is expensive so must be found a new technology which should be cheap and efficient like the development of organic photovoltaics but to come true we should their understand the degradation mechanism to gain stability and replaced Si based photovoltaics.

In this work we study the degradation of organic photovoltaics in conditions which could be developed under normal operation like temperature, extreme conditions like high humidity with high or low temperature and in conditions under normal operation like radiation. The conditions which the organic photovoltaics was a breadth of temperatures with low and high humidity to see firstly the effects of temperature in organic photovoltaic's parameters and then proceeded in the combination of temperature with humidity to see the effects in organic photovoltaic's parameters. Finally the organic photovoltaics exposed to UV and solar radiation.

Expect the study of photovoltaics degradation we also study the photo-active layer in a breadth of temperatures with low humidity and in condition with low temperature and high humidity. The above study to see the effects of the above conditions in optical and electrical properties in combination with the morphology changes of the photo-active layer. For the study of optical and electrical properties we used Spectroscopic Ellipsometry and via AFM microscopy we observe the morphological changes of photo-active layer.