

Building Gratzel Cells at the Federal Institute of Pará Laboratory.

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## **ABSTRACT**

The ability to rectify the current and voltage of the circuits, makes the diode essential in all major electrical equipment so far days. However, everyone knows that diodes with other properties, which make them suitable for other applications, such as the case of laser diodes, light emitting diodes (LED) and photovoltaic diodes. The Gratzel cell, or organic photovoltaic (OPV) presents a good alternative for silicon cells, which has a high production cost that belongs to the expensive material that is present in it. However, this cheaper product loses in efficiency and durability, which makes it momentarily less commercially. The objective of this study is the construction of Gratzel cells using available resources and materials at Federal Institute of Para laboratory. As a result, the cells showed tension generated when exposed to sunlight around 2.5 mV and in out of direct sunlight reaching values close to 0.5 mV. The construction of the Gratzel cells was a first step, showing that it is possible to develop regional researches, such as the use of dyes synthesized from abundant substances in our region, so this should be the next step in future research.

**Key-words:** Photovoltaic, Gratzel Cell, Solar Energy.