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SOLAR CELLS BASED ON DYE SENSITIZED NANOPOROUS TiO_2 SEMICONDUCTING FILMS.

A PROJECT REPORT PRESENTED

BY

HEMAL CHANDANA SENARATH BOOKOLADENIYA

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ABSTARCT.

Nanoporous TiO_2 on FTO glass has greater anchoring ability for dyes. The dye Brazilin extracted from Caesalpinia Sappan (Singhala; Pathangi) gets strongly adsorbed on TiO_2. A photovoltaic cell was fabricated by sandwiching an electrolyte with an n-TiO_2 photoanode and Pt counter electrode. Its I-V characteristics, photocurrent action spectra, UV-visible absorption spectra were recorded. When 1 cm^2 of the cell was illuminated V_{oc} = 348 mV and I_{sc} = 0.62 mA were obtained. The highest absorbance was recorded at 575 nm wavelength and highest photocurrent was recorded at a wavelength of 550 nm.