

## Characterization of $\text{TiO}_2$ substrate for Dye-sensitized Solar Cells: the Effect of Gamma-ray Irradiation

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Fabrication of dye-sensitized solar cells using gamma-ray irradiated  $\text{TiO}_2$  substrates were studied in this present work. The effect of irradiation dose on the performance of the cells was optimized in terms of energy conversion efficiency and stability. AC impedance characterization was found as an efficient tool to elucidate the electronic properties of  $\text{TiO}_2$  substrates in correlation with the energy conversion efficiency of corresponding dye-sensitized solar cells.