

## **Abstract**

Cobalt doped TiO<sub>2</sub> thin films (CTF) deposited by spray pyrolysis has been studied. The compositional analysis has been done using RBS method, while optical spectroscopy has been done by measuring the transmittance and reflectance of the films. The CTF thin films were prepared by doping TiO<sub>2</sub> at different concentration levels of Co which was varied between 0 and 4.51 at.%. The optical transmittance of the thin film has been found to be about 80% in the visible and near infra red regions. The calculated optical band gap has been observed to shift by about 0.22 eV, this shows a high potential for application as a dielectric and a Photocatalyst material.