



<b>Thesis Title</b>	Development of Spray Pyrolysis System for Synthesis of Nanostructured Titaniumdioxide
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### ABSTRACT

The objective of this experiment is to construct and develop a spray pyrolysis system for 2 method between the air induces and ultrasonic. The ultrasonic by using sonochemical technique was chosen for system development and titanium dioxide ( $\text{TiO}_2$ )'s film synthesis. The synthesis of titanium dioxide was fabricated, using titanium tetrachloride mixed with titanium isopropoxide as precursor. The morphology of the surface was studied by varying the temperature, the period of spraying, sonication time and type of solvent. The film's thickness of temperature at  $300\text{ }^\circ\text{C}$ , spraying time at 30 min, sonication time at 1.5 hrs and ethanol solvent is 656 nm. The elements analysis of the glass slide that the film coated, by the Energy Dispersive Spectroscopy technique are Ti and O with atomic ratio of 1 : 2 and X-Ray Diffraction shows crystal structure of anatase phase.