

[T-13]

Properties Comparison of TiO₂ and TiO-N made by Reactive Magnetron Sputtering

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TiO₂ having high photocatalytic property in UV wavelength region is studied by many researchers for using in visible wavelength region because it uses below 5% of sun energy. It is noticed photocatalytic activity by N doping in the TiO₂ (TiO-N) is higher in visible light region than that of TiO₂⁽¹⁾. Thin films are made at 300 °C by DC reactive magnetron sputtering methode using Ar, O₂ and N₂ gas in Ti Target that 0.6kw~5.8kw power is impressed. It is inspected that hysteresis phenomenon of TiO₂ thin film in discharge voltage characteristics is high as power is high and hysteresis phenomenon in TiO-N thin film is occurred in the 5.8kw power. Surface roughness of TiO-N thin films is larger than that of TiO₂ thin films . The results of XPS analysis and optical absorption spectra will be reported.

[참고문헌]

1. R. Asahi, T. Morikawa, T. Ohwaki, K. Aoki and Y. Taga, Science, 293 (2001) 269