SEMINAR ANNOUNCEMENT

Preparation of Porous Silicon Nanowires for Dye-Sensitized Solar Cell Application

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The natural fossil fuel is becoming less available and more expensive, and thus increasing reliance on renewable energy alternative. Among alternative energy sources, the sunlight is the most abundant renewable energy resource. Therefore, great efforts have been undertaken to develop various photovoltaic devices in order to convert sunlight into electricity. Compared to conventional solid state semiconductor-based photovoltaic technology, dye-sensitized solar cells (DSSC) technology has lower cost, and it produces electricity more stably in low light conditions. In this presentation discussed preparation of DSSC based on porous silicon nanowires (SiNWs). SiNWs were synthesized by electroless etching method which a silicon wafer etched in hydrofluoric acid contains silver nitrate. Blue color food dye was used in the fabrication of a simple SiNWs based DSSC device. It was found that the current-voltage characteristic of dye-sensitized SiNWs cell meet the characteristics of a solar cell when exposed to light.

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