

Dye-sensitized solar cell based on hydrothermally deposited NiS counter electrode

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NiS films were prepared by a hydrothermal technique on FTO glass substrates. The NiS films were used as a counter electrode electrodes of dye-sensitized solar cell. The dye-sensitized solar cell base on NiS exhibited performance with the energy conversion efficiency of 8.33%, open-circuit voltage of 0.74 V, short-circuit current of $16.23 \text{ mA}\cdot\text{cm}^{-2}$, and fill factor of 0.69 under full sunlight illumination ($100 \text{ mW}\cdot\text{cm}^{-2}$, AM 1.5G). This performance is close to the devices using platinum as the counter electrode (8.48%).

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