

Hydrogen productions from ZnO/CuO-Cu₂O photocatalyst materials

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Due to consumption of existing fuels and environmental problems, development of eco-friendly energy production is needed. In this situation, hydrogen energy attracts much interest, and technologies are being developed. One of the hydrogen production methods is the solar water splitting using photocatalysts. Hydrogen is produced by decomposing water under photoelectric effects. Zinc oxide and two states of copper oxides are served as photocatalyst materials. The fabricated samples are used to characterize their composition and fundamental properties. Several analytical methods such as SEM, TEM, XPS, XRD and UV-vis are used, and hydrogen production rate is measured by gas chromatography under continuous solar irradiation.