

Titania based mixed oxide photoanode for photoelectrochemical water oxidation

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In the present study, titania based mixed oxide photoanode was prepared on titanium plate. Earth abundant metal oxides present in sand, like silica, alumina, and iron oxide were mixed with titania through the above said method. The surface morphology investigated through SEM. EDX analysis shows composition of mixed oxides. The visible light harvesting capability of the mixed oxide photoanode was demonstrated from the UV-Visible diffuse reflectance spectrum. Photocurrents corresponding to water oxidation under visible light irradiation (AM 1.5G) in a photoelectrochemical cell with mixed oxide titania as photoanode was found to be higher when compared with pure titania.