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Titanium Dioxide-Based Nanostructured Catalysts for Solar Energy Production and Storage

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Message from the Guest Editors

Nanostructured materials based photocatalytic generation of solar fuels that include hydrogen production from the splitting of water and reduction of carbon dioxide has great potential to support the future economy. Many studies related to the development of nanostructured materials for several applications, including solar cell applications, water splitting, and storage of gases, are ongoing to support the energy demands of the current century, and, thus, provide better solutions for future world energy needs.

This Special Issue will present and discuss the use of different nanostructured catalysts, such as TiO_2-based oxide and/or mixed oxide materials, metal-doped oxides, etc. with advanced synthetic approaches, and its applications in solar fuel generation through photocatalytic and photoelectrochemical processes, and future prospects to improve the efficiency of solar-fuel production. We, therefore invite investigators to contribute review, perspective, and original papers related to recent findings in the field of photocatalysis for renewable fuels using titanium dioxide-based materials.