

عنوان مقاله:

Efficient and Low cost solar-driven water splitting involved with nanostructures

محل انتشار:

اولین کنگره ملی کاربرد مواد و ساخت پیشرفته در صنایع (سال: 1396)

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خلاصه مقاله:

One of the main challenges in today's world is for sure requirement of clean energy. Hydrogen as a propitious energy carrier can help with elimination of fossil fuel dependency. Creation of hydrogen by water splitting solar driven approaches is a very attractive way to achieve clean and renewable energy. Recently, there have been many researches devoted on exploiting novel materials and techniques so as to improve the efficiency of the process. Efficient method for solar-driven water splitting can happen aided by nanostructures such as nanowires, nanoparticles, nanopyramids, nanofibers, quantum dots, nanoclusters, nanorods, nanoflakes playing role as photoelectrode and photocatalyst. These anoconfigurations have been reached for ZnO, graphene, TiO₂, Fe₂O₃, BiVO₄, GaP, GaN, Cu₂O and etc. Herein, comparative study on solar to hydrogen conversion efficiency of water splitting systems improved by various techniques are demonstrated through most recent studies as well as detailed explanation regarding the utilized fabrication methods

کلمات کلیدی:

Solar-driven device, Water splitting, Nanostructures, Hydrogen

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