

Qualitative and quantitative analysis of solar hydrogen generation literature from 2001 to 2014

ABSTRACT

Solar hydrogen generation is one of the new topics in the field of renewable energy. Recently, the rate of investigation about hydrogen generation is growing dramatically in many countries. Many studies have been done about hydrogen generation from natural resources such as wind, solar, coal etc. In this work we evaluated global scientific production of solar hydrogen generation papers from 2001 to 2014 in any journal of all the subject categories of the Science Citation Index compiled by Institute for Scientific Information (ISI), Philadelphia, USA. Solar hydrogen generation was used as keywords to search the parts of titles, abstracts, or keywords. The published output analysis showed that hydrogen generation from the sun research steadily increased over the past 14 years and the annual paper production in 2013 was about three times 2010-paper production. The number of papers considered in this research is 141 which have been published from 2001 to this date. There are clear distinctions among author keywords used in publications from the five most high-publishing countries such as USA, China, Australia, Germany and India in solar hydrogen studies. In order to evaluate this work quantitative and qualitative analysis methods were used to the development of global scientific production in a specific research field. The analytical results eventually provide several key findings and consider the overview hydrogen production according to the solar hydrogen generation.

Keyword: Solar hydrogen generation; Hydrogen generation; Water splitting; Hydrogen literature