

On Solar Hydrogen & Nanotechnology

Editor

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More energy from the sun strikes Earth in an hour than is consumed by humans in an entire year. Efficiently harnessing solar power for sustainable generation of hydrogen requires low-cost, purpose-built, functional materials combined with inexpensive large-scale manufacturing methods. These issues are comprehensively addressed in *On Solar Hydrogen & Nanotechnology* – an authoritative, interdisciplinary source of fundamental and applied knowledge in all areas related to solar hydrogen. Written by leading experts, the book emphasizes state-of-the-art materials and characterization techniques as well as the impact of nanotechnology on this cutting edge field.

- Addresses the current status and prospects of solar hydrogen, including major achievements, performance benchmarks, technological limitations, and crucial remaining challenges
- Covers the latest advances in fundamental understanding and development in photocatalytic reactions, semiconductor nanostructures and heterostructures, quantum confinement effects, device fabrication, modeling, simulation, and characterization techniques as they pertain to solar generation of hydrogen
- Assesses and establishes the present and future role of solar hydrogen in the hydrogen economy
- Contains numerous graphics to illustrate concepts, techniques, and research results

On Solar Hydrogen & Nanotechnology is an essential reference for materials scientists, physical and inorganic chemists, electrochemists, physicists, and engineers carrying out research on solar energy, photocatalysis, or semiconducting nanomaterials, both in academia and industry. It is also an invaluable resource for graduate students and postdoctoral researchers as well as business professionals and consultants with an interest in renewable energy.

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