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Autore	Sun Hexu
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These proceedings highlight the latest advances in fundamental research, technologies and applications of hydrogen energy and fuel cells. In recent years, energy conversion between electricity and hydrogen energy has attracted increasing attention as a way to adjust the load of the grid. These conference records discuss and exchange cutting-edge findings and technological developments in fields such as new proton exchange membrane electrolysers, new electrode materials and catalysts, renewable energy, off-grid/grid-connected water electrolysis for hydrogen production, key materials and components of fuel cells, high-temperature solid oxide water electrolysis, energy storage technologies and research, CO<sub>2</sub> hydrogenation to methanol, nitrogen to ammonia and other applications with industrial potential. The main topics of the proceedings include: 1) Policies and strategies for hydrogen energy and fuel cells; 2) Advanced proton exchange membranes, electrodes and catalyst materials for water electrolysis; 3) Advanced hydrogen compression, storage, transportation and distribution technologies; 4) Safety and related standards; 5) Manufacture and R&D of key materials and components of fuel cells and stack systems.

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