Special Issue

Catalysts in Chemical Looping Technology for Energy Storage and Carbon Emission Reduction

Message from the Guest Editors

Chemical looping technology has emerged as a versatile and effective platform for energy storage and the production of value-added chemicals. The closed reaction cycle composed of multiple redox processes can potentially lower the reaction barrier, improve the yield of chemicals, and help to avoid some complicated separation processes. Recent years have seen great progress in the utilization of such technology in various reactions, including power generation, hydrocarbon conversion, ammonia synthesis, H2O/CO2 splitting, and so on. Additionally, numerous efforts have also been dedicated to reactor design, process engineering, and numerical simulations. In view of the prosperity in the area, this Special issue will focus on recent advances in redox materials, kinetics, mechanism, reactor design, and process analysis for chemical looping applications. Original research papers, review articles, and short communications are all welcome to this Special Issue.

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