# Aerogels—Recent Progress and Applications in China

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Aerogels are nanoporous materials which were initially prepared by Kistler in 1931. During the past 79 years, the investigation of aerogels was acceleratly booming in the 1980s and 2000s due to the tendency of applications in many important fields and the industrialization demands. In recent years, aerogels are attracting more and more people because of the unprecedented global pressure of the problems of energy and environment. As the materials with the lowest thermal conductivity, aerogels are ideal materials for thermal insulations which can save energy, and incur to reduce carbon emissions. As the materials with high porosity and specific surface area, aerogels are ideal materials to adsorb poisonous molecules or ions in the air and water, which can be applied in environment protection. Carbon aerogels, with a good electric conductivity, are good electrode materials for supercapacitors. In this presentation, recent progress in aerogel preparation and applications in China are introduced, especially the low cost routings for mass scale production, nanostructure control of the materials, different composite techniques, typical applications, are introduced, which including supercritical drying, ambient pressure drying, and other processing technology; different precursors (raw materials), surface modification, industrialization, and applications in high effective thermal insulations, adsorbents, catalysts, optic, high power density supercapacitors, capacitive deionization, etc.

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