
Applications of aerogel materials in energy

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Abstract

Aerogel materials, possessing structural advantages of large specific surface areas, high porosities, and three-dimensionally well-connected through-pore structure, are considered a superior material form for applications taking advantages of highly porous structure and involving liquid reactants and surface-based interactions/reactions. I present here aerogels of several materials, including silica, titania, carbon, and graphene, and their successful applications in high temperature thermal insulators (energy saving),^[1] dye-sensitized solar cells (energy conversion),^[2-3] supercapacitors (energy storage),^[4-8] and hydrogen generation (energy source).^[9]

References:

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