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Hydrogen Storage Materials for Vehicular Applications. J. Petrovic*, C. Read, H. Kung, A. Bouza, S. Satyapal, U.S. Dept. of Energy, Washington DC 20585.

Future hydrogen-fueled vehicles must have a driving range of greater than 300 miles before refueling. This requires that approximately 5-13 kg of hydrogen be safely stored on-board the vehicle (depending on vehicle type), within constraints of volume, weight, and cost. The DOE on-board hydrogen storage *system* targets for the Year 2010 are a gravimetric energy capacity of 2.0 kWh/kg (6 wt.% hydrogen), a volumetric energy density of 1.5 kWh/liter (0.045 kg hydrogen/liter), and a storage system cost of \$4/kWh (\$133/kg hydrogen). It should be emphasized that these targets are for the storage system, thus dictating even more stringent hydrogen storage properties for the storage material itself. Achieving such targets will require basic and applied research on new hydrogen storage materials. DOE-sponsored research on advanced storage materials such as complex metal hydrides, carbon-based materials, high-surface-area sorbents, nano and new materials, and chemical hydrogen storage will be discussed.

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