

MAE Seminar Series

Multi-cell hydrogen storage devices with extra volumetric capacity

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Abstract

Hydrogen storage remains as a major challenge to the future hydrogen economy. Among the existing methods, pressurized containers are the closest to practical applications. However, their safety concerns, stringent material requirements and high costs are difficult to fulfill simultaneously. Instead of single chamber cylinders, multiple cell structures are proposed here. It is found that such structures offer not only improved safety but also extra storage capacity. This may lead to the practical design and manufacturing of compact hydrogen storage devices that are suitable for portable fuel cell applications, even without employing costly materials.

Bio

Professor Xu received a Ph.D. degree in Physics from University of Pittsburgh, and a D.E.S. degree in Materials Engineering from Columbia University. He has been a faculty member at McMaster University since 1991. His current research areas include atomic images of nanostructures and non-crystallizable systems, degradation of organic light emitting devices and room temperature polymer fuel cells. He served in US DOE grant selection panel, NSERC Committee of Discovery Grant, etc.

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