

ADVANCED METAL HYDRIDES FOR BATTERY APPLICATIONS

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Metal hydrides are key compounds for battery applications. For long they have been developed as negative materials in Ni-MH alkaline batteries [1] and are widely used now in HEV cars. New fields of research arise recently with their use as anode in Li-ion batteries [2, 3] allowing to accommodate lithium through conversion reactions at the negative electrode. Additionally, some complex hydrides show excellent lithium ionic conductivity and are foreseen as electrolyte in all solid state batteries [4]. Recent aspects in this field of research will be presented and discussed.

References

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|  | <p>Dr. LATROCHE is currently appointed as Director of Research at CNRS in France. He studied at Nantes' University and obtained his PhD at the Institut Jean Rouxel in the field of Solid State Chemistry. After a post-doctoral position at Northwestern University in Chicago (USA), he joined the group of Dr. Percheron-Guégan to work in the field of metal hydrides. He is now head of the Institut de Chimie et des Matériaux Paris Est in Thiais. His main scientific interests are related to metallic alloys and hydrides. His research works deal with structural, physical, thermodynamic and electrochemical properties of these materials. His research activities are devoted to fundamental aspects of metallic hydrides in relation with their applications such as negative electrode for NiMH and Li-ion batteries or hydrogen gas storage for fuel cells. He has been involved in tens of national and international research projects. He has published more than two hundred and fifty publications in this research field and filed 8 patents.</p> |
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