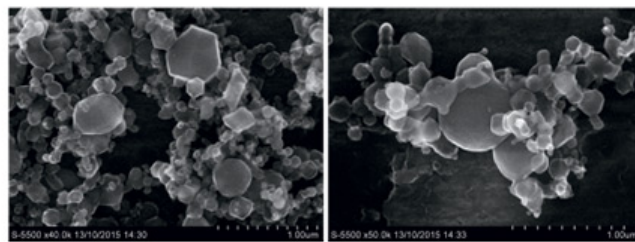


SibFU scientists introduced new material to store hydrogen

Scientists of Siberian Federal University and the Institute of Physics of the SB RAS produced a new material for hydrogen storage. The material based on magnesium hydride can store hydrogen mass of about 7 % of its own weight, and this is a record capacity among other similar materials.



Development can be useful for building hydrogen fuel vehicles.

Hydrogen is one of the most promising options for replacing gasoline, gas and other fuels based on hydrocarbons. Most promising is its use as a fuel for electric vehicles. However, transportation of hydrogen is quite difficult. Firstly, it requires expensive and heavy cylinders. Secondly, it is not safe since the mixture of air and hydrogen is very explosive. Therefore, during transportation, hydrogen is to be stored in various accumulating materials.



"The most safe and effective solution now is hydride-forming metals that absorb hydrogen. Magnesium is the most promising of these metals: many scientists in the world are exploring the possibility of creating hydrogen accumulators based on magnesium hydride", — says **Grigoriy Churilov**, one of the authors of the work, Professor of SibFU and employee of the Institute of Physics of the SB RAS.

Theoretically, magnesium can absorb hydrogen up to 7.6 % of its own mass. However, in most current experimental works the capacity of magnesium hydride does not exceed 5–6 %. The Krasnoyarsk scientists have improved this index. By adding nickel and palladium to the magnesium hydride, they obtained a material accumulating about 7 weight percent of hydrogen.

[The paper](#) by the scientists is published in the last issue of the SibFU journal "Mathematics and Physics". The composition of the authors' team also included the Master's student of the School of Engineering Physics and Radio Electronics Yevgeniya Melnikova (currently a graduate).

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