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HYDROGEN ENERGY

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The paper deals with hydrogen fuel that is zero-emission fuel, which uses electrochemical cells or combustion in internal engines, to power vehicles and electric devices. It is also used in the propulsion of spacecraft and might potentially be mass-produced and commercialized for passenger vehicles and aircraft.

Hydrogen is the simplest element. An atom of hydrogen consists of only one proton and one electron. It's also the most plentiful element in the universe. Despite its simplicity and abundance, hydrogen doesn't occur naturally as a gas on the Earth - it's always combined with other elements. Water, for example, is a combination of hydrogen and oxygen (H2O).

Hydrogen is high in energy, yet an engine that burns pure hydrogen produces almost no pollution. NASA has been using liquid hydrogen to propel the space shuttle and other rockets into orbit. Hydrogen fuel cells power the shuttle's electrical systems producing pure water that the crew drinks.

A fuel cell combines hydrogen and oxygen to produce electricity, heat, and water. Besides, fuel cells are often compared to batteries. Both convert the energy produced by a chemical reaction into usable electric power. However, the fuel cell will produce electricity as long as fuel (hydrogen) is supplied, never losing its charge.

Fuel cells are a promising technology for use. It can be used as a source of heat and electricity for buildings, and as an electrical power source for electric motors propelling vehicles.

In the future, hydrogen could also join electricity as an important energy carrier. An energy carrier moves and delivers energy in a usable form to consumers. Renewable energy sources, like the sun and wind, can't produce energy all the time. But they could, for example, produce electric energy and hydrogen, which can be stored

until it's needed. Hydrogen can also be transported (like electricity) to locations where it is needed.

The widespread adoption of hydrogen fuel is hindered by higher cost of hydrogen compared with usual liquid and gaseous fuels, the lack of necessary infrastructure. An interim solution could be a mixture of traditional fuels with hydrogen. Hydrogen can be used to improve the ignitability of lean mixtures in combustion engines running on conventional fuels.

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THE COMPARISON OF COMPLEXITIES OF THE CHINESE AND RUSSIAN LANGUAGES ON THE EXAMPLE OF TERMINOLOGY OF CHEMISTRY

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ИСГТ

Many linguists are wondering whether it is possible to objectively assess the complexity of languages without attracting speakers of a particular language. If so, what criteria can be used to do this? Alexander Pipersky, candidate of Philology, assistant professor of the Institute of Linguistics of the Russian State University for the Humanities, gives the example with the Martian who came to our planet and needs to learn a human language - which language would be easier for him then, and which one would be more difficult [1]? Linguists in the process of studying language complexity try to answer this question.

Chinese is certainly one of the most complex languages in the world: tonality, a large number of synonyms, homonymy, hieroglyphics, high-speed speech of speakers, 10 dialect groups, etc., but in every even the most complex language there are also advantages that can be identified in comparison with another language.

If you take a certain professional sphere and look at the terminology of this field in Chinese, you can see that although Chinese characters are difficult to write, but their graphical content carries so much information that even if some term is absolutely unfamiliar and highly specialized, then its meaning and nature can be understood simply by looking at the characters in its composition. In this respect, the terminology in Russian is harder to perceive and understand than in Chinese, since it uses mostly those terms that are used only in a professional context, while most of hieroglyphs in Chinese terms are commonly used in ordinary life.