

Brainy Device: SibFU come up with versatile controller

IT experts from Siberian Federal University have developed a neural-network-based PI controller.

According to the developers, the controller can be utilized in electric vehicles to reduce energy costs, improve performance, and extend the mechanical components life. The smart system also extends the battery life of any wireless device.

✖ *'We intended to develop energy-converting equipment which could be used, particularly, in electric vehicles, smartphones, and even spacecraft. We decided to use smart control systems for energy redistribution. An electric vehicle is an autonomous system which not only runs on a battery but also recharges it at the same time. If you equip the electric vehicle with a smart control system that takes into account the slightest nuances of the road surface, tire pressure, and other essential and rapidly changing factors, it will choose the optimal mode of battery charging and car movement. The more nuances the system takes into account, the more advanced becomes the brain of the vehicle,'* said **Oleg Nepomnyaschy**, head of the Department of Computer Engineering, SibFU.

The researcher clarified that students and postgraduates of the Polytechnic School (SibFU) develop an electric vehicle to test all the subtleties of smart control. Meanwhile, the School of Space and Information Technologies constructs a custom facility to hone various models of smart systems designed, among other things, for the space industry.

'We have already assembled a power module and intelligent control module for redistribution of energy produced by solar panels with the efficiency of 96 % in the discharge mode It's an excellent result the SibFU researchers can be proud of,' continued **Oleg Nepomnyaschy**.

The developed smart system is versatile and can serve not only in cars or space exploration vehicles. According to the SibFU engineers, it suits any wireless devices. A mobile phone, probably the most regular gadget for the ordinary citizen, when upgraded with the new technology will become almost undying and will no longer frighten the owner with a flashing image of a discharged battery. So, if the know-how of the SibFU engineers withstands tests and enters the market one day, people could leave their phone chargers at home and set out on a trip or even an expedition without any worries.

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