

SPbPU scientists have developed a new coating for batteries



A coating that improves the properties of lithium-ion batteries, which are in demand for electric vehicles, scooters, UAVs and portable electronics, has been developed by scientists at Peter the Great Polytechnic. They managed to improve the specific energy gain of these chargers by 20 percent.

Maxim Maximov, head of the research laboratory «Coatings, Materials and Technologies for Lithium Current Sources» at the Institute of Mechanical Engineering, Materials and Transportation at SPbPU, explained to RIA Novosti that his research group has come close to developing a fully solid-state battery.

The use of metallic lithium increases energy intensity. Currently, the specific energy of industrially manufactured batteries is at the level of 250-280 Wh/kg, and the increase in specific energy is decreasing every year. By using lithium metal, we have been able to achieve over 300-350Wh/kg. For the user, this means an increase in the device's operating time without recharging by 20 percent, the scientist reported.

The second important aspect, he said, is related to ensuring safety for the end user. He explained that the presence of liquid electrolyte and organic solvents

makes conventional lithium-ion batteries at increased risk of fire due to short circuits.

However, he emphasized that the new technology uses a solid electrolyte and special coatings. The absence of liquid electrolyte and organic solvents, he said, significantly increases the safety of electrochemical systems.

[Source](#)

Дата публикации: 2025.04.18

>>Перейти к новости

>>Перейти ко всем новостям