

In Russia, the production of “green” hydrogen was accelerated by six times

ITMO scientists have created a new reactor for the production of environmentally friendly hydrogen, which works six times faster than existing analogues and consumes 15% less energy. To do this, they modified the reactor with magnets and applied iron-kobalt on the electrodes.

The principle of operation remained standard: in the solution of alkali, under the influence of electric current, the water molecule is split into hydrogen and oxygen. Hydrogen is formed on the cathode, oxygen on the anode. Magnets and nanoparticles create additional effects: spinal polarization and hydrodynamic mixing. In conventional reactors, these processes go slower and require additional mechanical mixing.

Now the semi -industrial prototype collected in the laboratory is ready for real -production tests. Researchers independently synthesized nanoparticles, developed and printed on the 3D printer the details of the case to get the most effective design.

ITMO scientists plan to find industrial partners and test a new reactor at large enterprises.