The press service of the MIREA RTU reported that the university experts have developed a new method for managing the optical properties of nanocomposites. We are talking about materials consisting of cobalt and silicon. Scientists have found that changing the size and shape of the particles can significantly enhance their reaction to a magnetic field.

This discovery is associated with a magnetorepractive effect, which consists in changing the optical characteristics of the material under the influence of magnetism. The intensity of this effect was increased ten times. This was achieved by reducing cobalt particles in Silicon Matrix to two nanometers.

As part of the work, computer modeling was used. This approach made it possible to predict the behavior of materials without expensive laboratory tests. The data obtained coincided with the results of the experiments, which confirmed the reliability of the method.

Developed nanocomposites can become the basis for creating highly sensitive magnetic sensors. Such sensors can potentially be used in various areas, including medicine, spintronics and security systems.