Belarusian State University
of Informatics and Radioelectronics

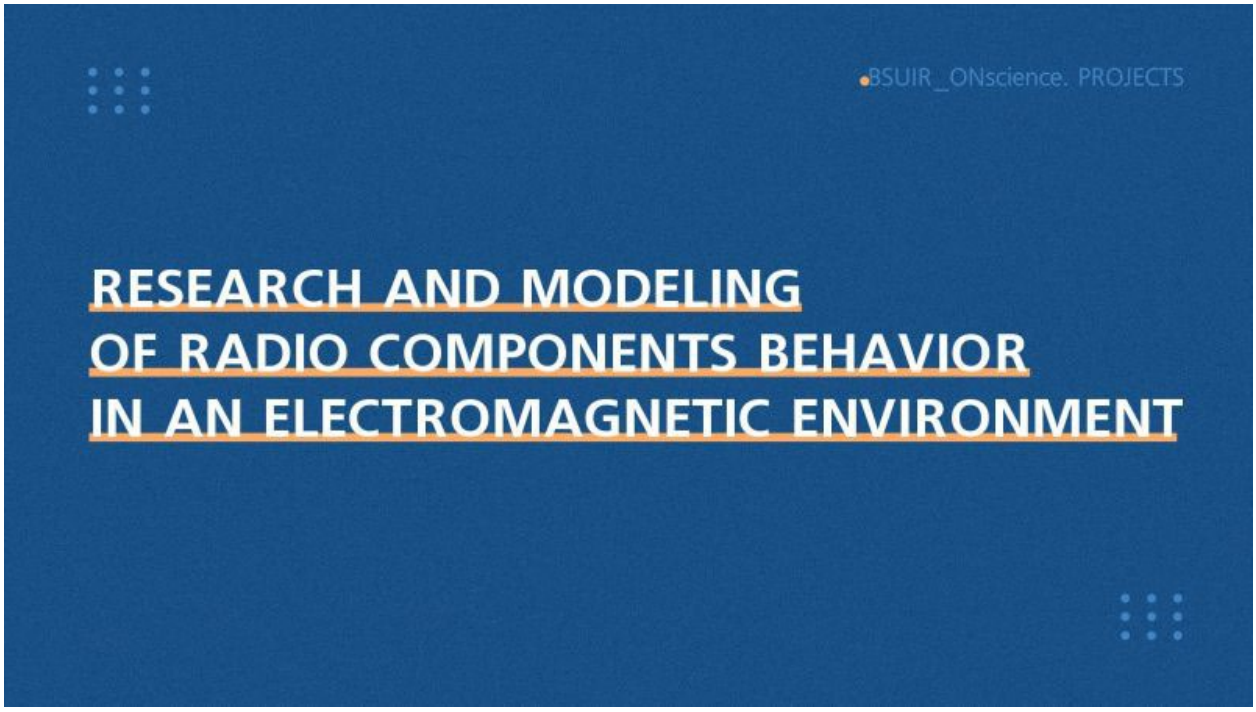
R&D Department

March 6, 2024

BSUIR scientists: joint projects with international partners

In continuation of the #BSUIR_ONScience rubric about projects implemented with the participation of BSUIR scientists and their foreign colleagues.

Project No. 20: "Research of nonlinear properties and modeling of the behavior of promising radio components at the level of element, circuit and device to solve problems of electromagnetic compatibility of radio systems".



Project partner: Nanjing University of Information Science and Technology, China.
Terms of the project: December 1, 2022 – October 31, 2024.

Scientific supervisor of the project from Хэштег#BSUIR: Vladimir Mordachev, head of the Research and Development Laboratory "Electromagnetic compatibility of radio equipment", Ph.D. in Technical Sciences, Associate Professor.

The project is sponsored by the State Committee for Science and Technology of the Republic of Belarus and the Ministry of Science and Technology of the People's Republic of China.

Project goals:

◈ Research and modeling of nonlinear properties of modern and promising radio frequency (RF) elements and devices intended for use in 4G/5G radio-telecommunications systems.

◈ Modeling their behavior in a complex electromagnetic environment (EME) when exposed to interference of a large dynamic range to assess their performance in difficult operating conditions.

For the first time in the world, the nonlinear properties of RF devices and the component base of 4G/5G systems will be studied using the dual-frequency sensing method. This would allow to synthesize high-order polynomial models to describe the amplitude characteristics of these devices and components in the range corresponding to the dynamic range of the signals that form the external electromagnetic environment.

You can contact the project supervisor by e-mail: mordachev@bsuir.by.

Moreover, you can also familiarize yourself with the activities of the scientific laboratory on the website → science.bsuir.by → Research Areas R&D Lab 1.7 "Electromagnetic compatibility of radio equipment"