

Polytechnic University presented the advantages of meteor long-distance communication at the China-Russia Symposium

This week, Polytechnic University participated in the Second China-Russia Symposium on Polar Acoustics and Information Technology. The event was organized by a SPbPU partner - [Harbin Engineering University](#) and the Russian industry center Marinet. The Symposium was supported by the Informatics Department of the Chinese State Natural Sciences Foundation Committee.



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нанотехнологий
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Высшая школа
прикладной физики
и космических технологий

Метеорная дальняя связь
для обеспечения северного
морского пути в Арктике
при чрезвычайной ситуации



Development of the Arctic region and innovative developments in the field of information technology is now an important area of activity in many countries. Like other universities around the world, SPbPU carries out research work on this issue, including those in collaboration with foreign partners. At the last Symposium, Sergey Makarov, scientific director of the Higher School of Applied Physics and Space Technologies of Peter the Great St. Petersburg Polytechnic University, represented SPbPU and made a report on “Meteorological long-distance communication to ensure the Northern Sea Route in the Arctic in case of emergency.”

“We offer a system of meteor radio communications for areas of the far north. For

this purpose, the possibilities of reflection from meteor traces of signals transmitted from ground stations are used. The advantage of this system is that it provides communication in the circumpolar areas, when the work of other types of communication, such as ionospheric short-wave communication or expensive satellite communications is difficult.

The meteorological communication system is used for monitoring - for example, in meteorology or hydrography, for high precision time synchronization, urgent delivery of information to sparsely populated and inaccessible areas. The communication range reaches 2,000 km using power amplifiers up to 1 kW. The equipment has compact appearance and can be located both directly on the ground and on ships," Sergey Makarov emphasized in his speech.

The topic of the report by scientist Politex aroused great interest from the part of Russian and Chinese colleagues. The partners of SPbPU also spoke about the related directions - for example, Tsinghua University, with which our university has strategic partnership relations, presented the report on the "Technology of underwater communication in the visible light," and the presentation of Harbin Engineering University was devoted to fundamental research and technical applications of polar acoustics.

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