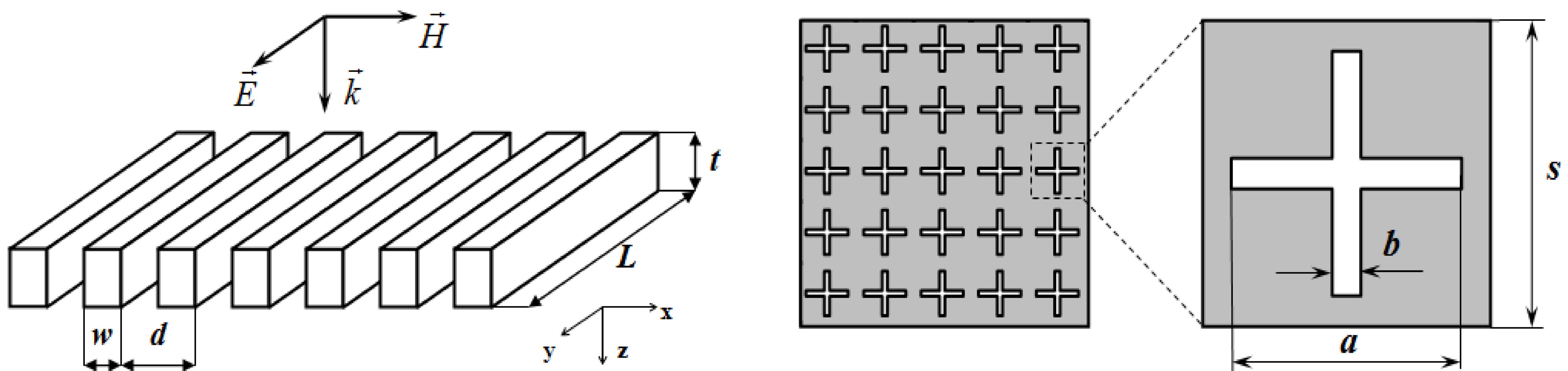


## MATHEMATICAL MODELING AND EXPERIMENTAL STUDY OF METAL MESH DEVICES FOR MM-WAVE RANGE APPLICATIONS

Talk by Dr. V. Komarov, Yuri Gagarin State Technical University of Saratov,  
August 16<sup>th</sup>, 2:00 p.m., Room 3.40, Building 30.10

One-dimensional (1-D) and two-dimensional (2-D) periodic structures like the metal gratings (MGs) and the frequency selective surfaces (FSSs) find wide practical application in microwave and terahertz engineering to control parameters of electromagnetic waves in mesh polarizers, attenuators, converters, dividers, filters, interferometers, etc. The objective of the present project is to investigate electromagnetic properties of such 1-D and 2-D periodic structures, and to develop several analytical and numerical models which can be used in computer-aided design of metal mesh devices (polarizers and filters) for mm-wave applications in various radio electronic systems. Experimental testing of all models will be carried out with the help of the MGs and FSSs fabricated in the Central Research Institute of Measuring Equipment, Saratov, Russia.



Vyacheslav V. Komarov (M'03) received the Ph.D. degree in radio physics from Saratov State University, Saratov, Russia, in 1994, and the D.Sc. degree in antennas and microwave devices from Saratov State Technical University (since 2013, the Yuri Gagarin State Technical University of Saratov), Saratov, Russia, in 2007. He is currently a Professor with the Institute of Electronic and Mechanical Engineering, Yuri Gagarin State Technical University of Saratov, Saratov, Russia. He was a Visiting Scientist with Montena EMC, Baden, Switzerland (1997), the Chalmers University of Technology, Göteborg, Sweden (1999), Washington State University, Pullman, WA, USA (2003), the Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany (2006 and 2009), and the Kokushikan University, Tokyo, Japan (2013). His current research interests include mathematical modeling and computer-aided design (CAD) of passive microwave and terahertz devices, metamaterials, and propagation of electromagnetic waves in complex media. Dr. Komarov was awarded the Premium of the Russian Federation Government in Science and Engineering in 2014.

