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### **Simulator of Elastic Optical Networks using 3-stage Clos switching network**

**Abstract:** Over recent years, we have seen a rapid growth of network traffic. This growth is caused by increased bandwidth demands from end users. In the meantime, the development of optical networks has shown that they could meet the requirements for high bandwidth demands. Today, with the development of DWDM technology, all optical networks are gradually developed as the next generation communication networks which are paid more attention of researchers. In DWDM optical networks, it is therefore necessary to use optical switching networks to convert and transfer different wavelengths of optical signals in the network. This optical technology allows to increase transmission speed to 100 Gbps, 400 Gbps, or even 1 Tbps. There is no need to build very complex optical switching networks free from the blocking phenomenon – it is more important to have a possibility to determine loss probability in cost effective switching networks (e.g. three-stage Clos switching networks) servicing multiservice traffic streams. To do this a simulator of optical switching networks was developed. The simulator allows us to determine traffic characteristics such as loss probability in switching networks.

**Biography:** Maciej Sobieraj received M.Sc. and Ph.D. degrees in Electronics and Telecommunications from Poznan University of Technology, Poland, in 2008 and 2014, respectively. Since 2007 he has been working at the Chair of Communication and Computer Networks at the Faculty of Electronics and Telecommunications at Poznan University of Technology. He is the co-author of more than 40 scientific papers. He is engaged in research in the area of modeling multiservice cellular systems and switching networks and traffic engineering in TCP/IP networks.