Challenging Aspects of Terahertz Terabit Wireless Communications

Yu, Xianbin; Galili, Michael; Jepsen, Peter Uhd; Oxenløwe, Leif Katsuo

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Xianbin Yu, Michael Galili, Peter Uhd Jepsen, Leif K. Oxenløwe

DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark, DK-2800, Kgs. Lyngby, Denmark

Abstract

The increasing demand on fast wireless communications, e.g. huge data file transferring and mobile broadband access, has driven wireless communication systems into a path towards Terabit era. Terahertz (THz) technology is promising due to its unique features, such as unlimited bandwidth available and minimum human health threat. However, a number of technical challenges need to be overcome to achieve such an ultrafast data rate of Terabit in the THz frequency band. This presentation overview the key technologies and challenging aspects of a THz Terabit communication system, from a system point of view, in terms of THz generation and link power budget. The THz atmospheric absorption is another critical issue to limit wireless communication range.