

# Wojskowy Instytut Łączności - Państwowy Instytut Badawczy

<https://www.wil.waw.pl/wil/publikacje/baza-publicacji/r1030144371462,Increasing-the-Dependability-of-Wireless-Communication-Systems-by-Using-FSORF-Te.html>  
2022-10-05, 00:42

## Increasing the Dependability of Wireless Communication Systems by Using FSO/RF Technology

### Tytuł

Increasing the Dependability of Wireless Communication  
Systems by Using FSO/RF Technology

### Typ publikacji

[Referat konferencyjny](#)

### Rok

2020

### Data dokładna

2020

### Autorzy słownie

Janusz Mikołajczyk, Dariusz Szabra

### Autorzy

[Kaniewski Paweł](#) [Matyszek Robert](#)

### ISBN/ISSN

ISBN: 978-3-030-48255-8, ISSN: 2194-5357

### Informacje dodatkowe

In book: *Theory and Applications of Dependable Computer  
Systems* (pp.420-429), vol 1173,

DOI:[10.1007/978-3-030-48256-5\\_41](https://doi.org/10.1007/978-3-030-48256-5_41)

Wydawca Springer, Cham

Proceedings of the Fifteenth International Conference on Dependability of  
Computer Systems DepCoS-RELCOMEX

Konferencja International Conference on Dependability and  
Computer Systems

Abstract: The article presents some aspects of wireless communication systems dependability used for the army. Free Space Optics (FSO) and optical-radio hybrid (FSO/RF) data transmission technologies were analyzed considering their advantages and disadvantages. In the experimental part, some selected results of the LasBITer research project are described. This project confirmed the significant advantages of the developed hybrid technology. It was shown that FSO links have many advantages, however, they are sensitive to harsh atmospheric conditions, e.g. fog and scintillation. In turn, RF links are characterized by low attenuation in similar weather conditions, but they may be exposed to enemy electronic warfare systems. In such situations, there is need to work in a so-called "radio silence regime" (no radio emission). The combination of both technologies into one FSO/RF hybrid system provides to increase its suitability (up to value of 99.999%), reliability, security of sensitive data transmission, and reduce the probability of detection.

---

## Powiązane publikacje

-

### Adres url strony

[https://www.researchgate.net/publication/341543159\\_Increasing\\_the\\_Dependability\\_of\\_Wireless\\_Communication\\_Systems\\_by\\_Using\\_FSORF\\_Technology](https://www.researchgate.net/publication/341543159_Increasing_the_Dependability_of_Wireless_Communication_Systems_by_Using_FSORF_Technology)