Chair of Communication Networks
TUM Department of Electrical and Computer Engineering
Technical University of Munich

Bachelor's Thesis

Influence of the human body on indoor LiFi communication

In future, data will be transmitted over light, especially in case of aircraft cabins. However, cabin channel models are non existent for communication based on light (LiFi). Therefore, we developed a 3D structure in blender to simulate light propagation in aircrafts. However, the model is lacking passengers. Passengers will block the light path and cause disruptions in communication.

The goal of this thesis is to extend the model by adding passengers, with the help of pre-existing models. After extending the simulator, different scenarios should be simulated and analysed. The overall goal is to show the influence of adding passengers and to derive a blockage model for LiFi.

Related Work:

Blender

https://www.blender.org/

LiFi

H. Haas, L. Yin, Y. Wang and C. Chen, "What is LiFi?," in Journal of Lightwave Technology, vol. 34, no. 6, pp. 1533-1544, 15 March15, 2016, doi: 10.1109/JLT.2015.2510021.

Prerequisites

- Some experience in python
- Interest in 3D modeling
- Interest in new communication technologies

Advisors

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