TUM

Bachelor's Thesis

Modeling and comparing different aircraft cabin wireless channel models

Wireless communication is heavily dependent on the channel it operates on. Therefore, to simulate wireless transmissions, accurate wireless channel models are needed. The amount of channel models for aircraft cabins is quite limited and outdated because of the new materials used in aircrafts and new frequencies available for wireless transmission. Therefore, we want to develop a 3D structure of an two aisle aircraft cabin in Blender to simulate the propagation of electromagnetic waves. The goal of the thesis is to generate a wireless channel description of this model using ray-tracing and compare it to an existing single aisle model.

Prerequisites

Review of related literature
Convert the existing single aisle 3D model to a double aisle
Derive a channel description
Compare the channel with an existing single aisle model
Evaluate the results

Advisors

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