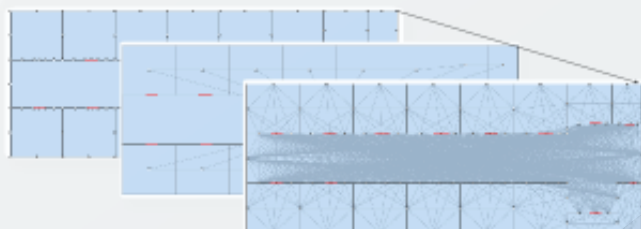


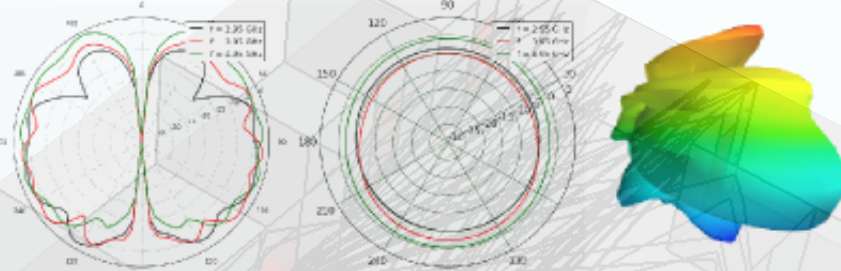
PyLayers is an open source **Site Specific Radio Channel Simulator for Mobile Heterogeneous Networks**. The Framework gathers modules for Propagation, Communications, Mobility, Localization and Wearable Devices. All modules can be used together or independently.

## Main Features

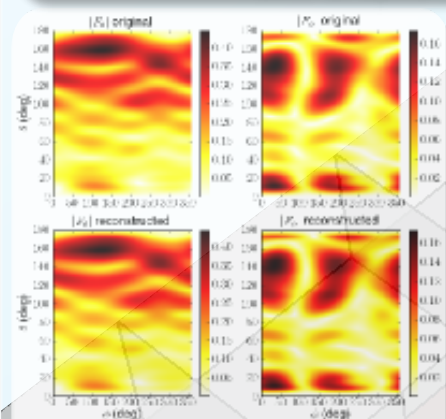
- Fast Site Specific Radio Channel Simulator (Delays, DOA, DOD)
- Handling of various **Radio Standards** including **Ultra Wide band**
- Heterogeneous Networks
- Fast **Indoor Radio Coverage**
- Full Space Antenna Patterns Description
- Indoor **Localization** Platform
- Human **Mobility** Simulator
- Wearable and **WBAN** Networks
- Motion Capture C3D files
- Full Python code
- **Open source** GPL license



Synthetic Environments described with Graphs



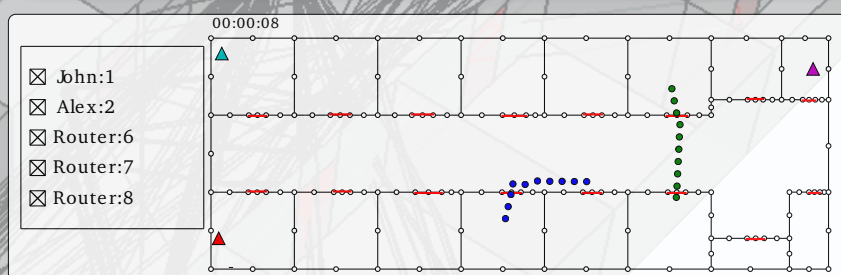
Antenna Pattern Visualization



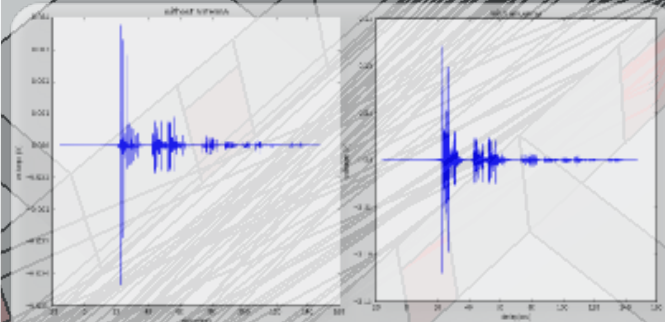
Spherical Harmonic Representations of Antennas



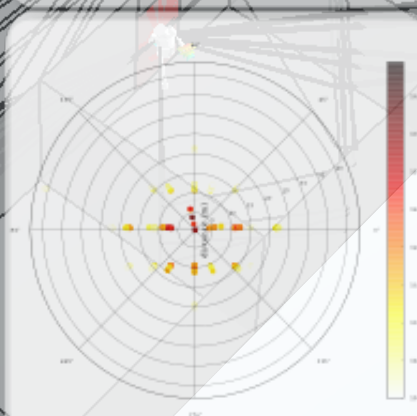
Multi-Cylinders Body model



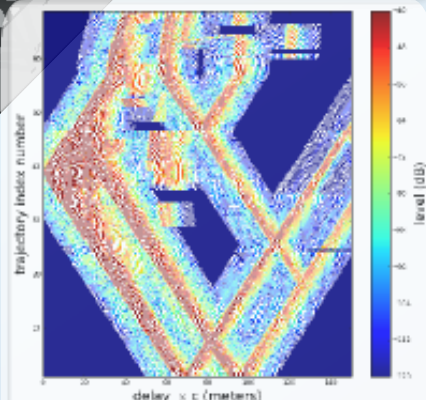
Agent Mobility using Virtual Forces



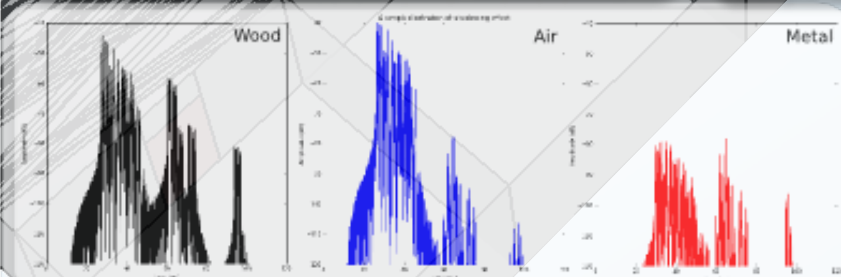
Antenna influence on UWB Waveforms



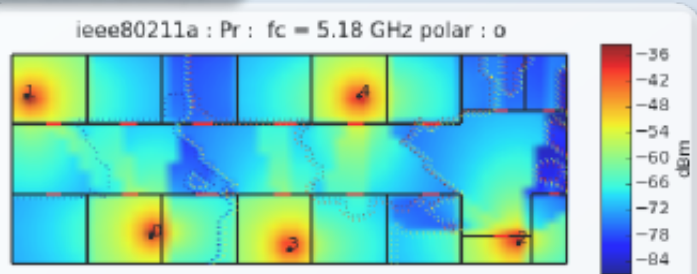
DoD / DoA Angle Dependent Delays



Channel Impulse Response Along Trajectories



Multi Layers description of the Synthetic Environment



Multi-Standards Fast Indoor Radio Coverage