Communications Performance Forecaster by Gradiant

HELPING MISSION PLANNERS

gradiant

Connectivity · Intelligence · Security
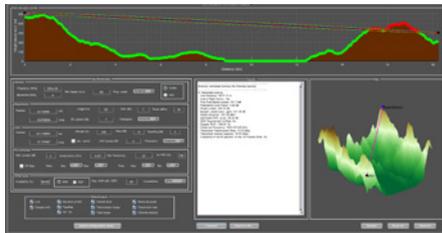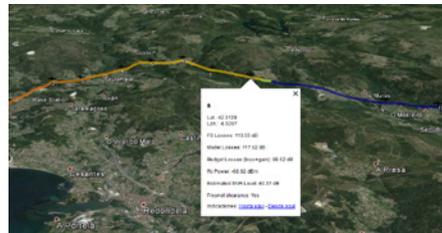
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DESCRIPTION

Prior to the take-off of an aerial platform it is almost mandatory to include a previous planning step where an assessment of the mission and its crucial elements takes place. This task is usually supported by software tools known as mission planners. However, most of the available alternatives do not consider the communication link state (neither C2 nor mission link). The availability and the good performance of communications can be considered as a key issue in the mission success.

Communications Performance Forecaster by Gradiant is a software tool designed to simulate, predict and evaluate the performance of UAVs communication systems. This tool can forecast the coverage and the scope of UAVs data links taking into account multiple factors, such as: typical RF parameter, communication technologies, terrain profile, weather, mission area and planned UAV route.

SPECS

> Multiple propagation models (expandable): ITU-R p.2001-2, ITU-R p.525-2 & ITU-R p.528-3
> Support for different commercial radio modems simulation (user configurable)
> Support for different Digital Terrain Models
> 3D antenna radiation pattern consideration for performance forecast
> Selectable outputs: propagation losses, received power, SNR level, LoS determination, transmission rate...
> Exportable graphs and reports, KML data

OPERATION MODES

Point to Point Mode: simulates the performance of a static link between two points.

Route Mode: forecasts the performance of a UAVs data link along a planned route.
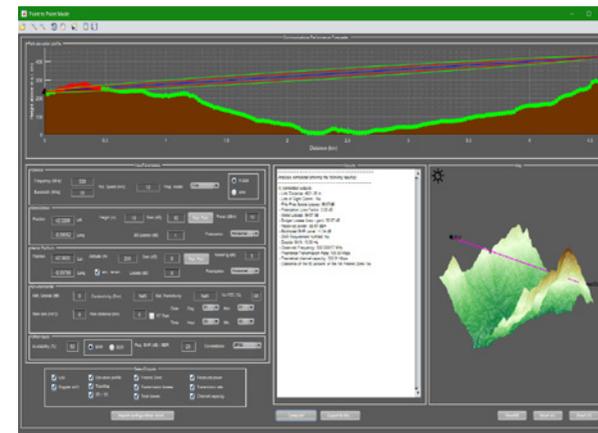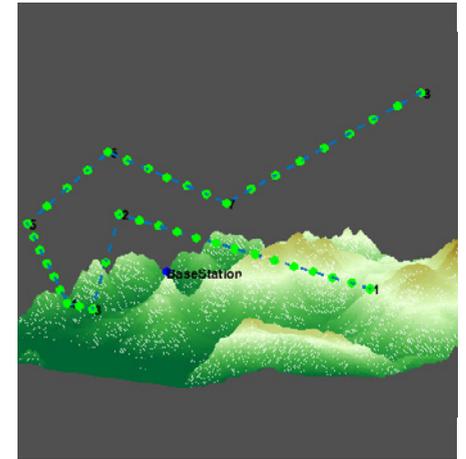

Area Prediction Mode: predicts the coverage of a communication system over a determined geographical area.

Satellite Mode: satellite feeder link & user link performance simulation.

SELECTABLE OUTPUTS

> Propagation losses
> Received power
> SNR level
> LoS Determination
> Fresnel Clearance
> Transmission Rate
> Channel Capacity
> Doppler Shift

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