**Seminar “Fundamentals of GNSS simulation and testing”**

Overview GNSS system

Current status and future trends

* More accuracy
* Multi frequency
* Multi GNSS
* High performance

GNSS simulation & test

* What is a GNSS simulator:
  + Generate and RF signal that matchs with the RF signal coming from satellite
  + Receiver not know wich signal is real, which is from simulator
  + Can controlable some argument, parameter.
* We have three way(methodology) for testing with GNSS signal
  + Live sky: real data, uncontrollable, weak signal,
  + Using record & playback system
  + Simulation gnss signal: good streng signal, make any testcase, custom any location, timestamp, fault condition...

Productions of SPIRENT

GNSS6450: a Record & Playback system

GNSS7000: simulation GNSS system

**Glossary**

L1, L2, L5: GPS signal frequency standard

GNSS: Global Navigation Satellite System

GPS: an GNSS system provide and forcus on US

Galileo: an GNSS system provide and forcus on Europe.

GLONASS: an GNSS system provide and forcus on Russia

Beidou(BSD): china system

RF: Radio Frequency

Sim3D: Simulation 3D

ERA-GLONASS: Emergency Response system - GLONASS

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