



The GNSS STARR testbed is a powerful tool for the robustness assessment of GNSS receivers. The software tests the performance against interference events in realistic environments. The testbed offers a set of tools capable of configuring navigation test scenarios, in a variety of preconfigured and user-defined contexts: vehicular, avionic, maritime, etc. Interference setup includes intentional and unintentional jamming signal and flexible spoofing configuration. The main output of the testbed is a certification of the degree of robustness against harsh environment and adversarial conditions.

CONSTELLATIONS

- GPS L1 C/A Open Service
- GALILEO E1B/C Open Service
- EGNOS L1

CHANNEL MODEL

- AWGN
- Avionic
- Two-rays
- Vehicular
- Maritime
- Rail

SPOOFING

- Configurable single channel spoofing
- Consistent/non-consistent attacks (code/carrier phase lock)
- Configurable multi-channel spoofing
- Configurable consistent spoofing trajectory

SUPER VERSATILE COMPOSITE JAMMING

- Configurable power and timing;
- Configurable AM period and duty cycle;
- Configurable FM frequency central shift, variation amplitude and rate
- Configurable bandwidth of wide band shaping component
- Configurable Spread Spectrum Signal

FEARED EVENTS

- Evil waveform
- Erroneous Ephemerides
- Excessive range acceleration
- Low satellite power
- Code/carrier divergence

QUALIFICATION CAPABILITIES

- Configurable thresholds
- Configurable thresholds profiles
- Configurable test duration
- Test reporting

RECEIVERS SUPPORT

- NMEA format
- Septentrio SBS format
- Plugin based approach for other proprietary

Partners:



Activity with financing "ASI - BANDO PERIODICO RISERVATO ALLE P.M.I. BANDO TEMATICO - Navigazione e Osservazione della Terra: utilizzo delle infrastrutture spaziali nazionali e comunitarie"

