TERRAPOS

Kinematic GNSS/INS post-processing

TerraPos offers high precision positioning and attitude, for any platform and environment. Utilize the Precise Point Positioning (PPP) technology to provide true autonomy: **anywhere, anytime** – without worrying about base stations or reference networks. Ideal for **marine** or **airborne** applications. **Mobile Mapping** in an urban environment? Confidently use our **ultra-reliable DGNSS** solutions.

The technology is state-of-the-art: **Tightly coupled** GNSS/INS integration, in pair with a well proven PPP engine or using the latest DGNSS innovations.

20+ years of service at sea, in the air, and on land – on all continents.

Applications

TerraPos is specifically developed for kinematic applications, such as airborne photogrammetry, LiDAR and gravimetry operations, seabed mapping, tide estimation, Mobile Mapping, etc.

Processing

- Static, buoy, marine, land, UAV and airborne profiles
- GNSS: PPP (with ambiguity resolution), DGNSS ("PPK")
- INS: GNSS + IMU, tightly coupled
- INS: any GNSS solution + IMU, loosely coupled
- GPS, GLONASS, Galileo, BeiDou, QZSS, NAVIC and SBAS (using any combination of systems)
- Dual GNSS antenna support for improved heading
- Odometer support for land applications
- Kinematic reference receiver (moving baseline) processing
- Stop-and-Go mode and Zero-velocity updates

Export

Advanced and flexible export capabilities, including format editor, geodetic transformations, flexible height system definitions with, e.g., geoid or MSS grids, simultaneous output for multiple sensors, export to common binary formats, etc.

Ease of use

- Default settings have been specified with great care, leaving the operator with virtually no complex decisions or tuning.
- Mount files for convenient administration and reuse of lever arms and other sensor mounting parameters.
- Automatic download of ephemerides, clock files, reference station data, etc.
- Automatic update of system files, e.g., constellation tables, antenna calibrations, etc.
- Background maps, WMS support.
- Synchronized plot marker, advanced plot overlays, etc.
- PDF report module.
- Dedicated workflow module with both grahical and command line interface. The ideal tool for automation of complex processing pipelines. Full support for integrating 3rd party tools, e.g. for RINEX conversion.

Requirements

- TerraPos is based on post-processing.
- PPP accuracy depends on data span, 10 – 30 minutes typically required for reliable ambiguity resolution. 1+ hour for float solutions.
- Vendor neutral support.

Specifications

System requirements
Windows or Linux operating systems.

GNSS
All satellite systems are supported. Any combination of GPS, GLONASS, Galileo, BeiDou, QZSS, NAVIC and SBAS may be used. Up to three user-selectable frequencies per system. Code, carrier phase and Doppler observations.

General processing strategy
Optimal filter/smoother combination. Tightly or loosely coupled INS integration.

Ambiguity resolution
- Dual-frequency PPP ambiguity resolution
- Single, dual or triple frequency DGNSS ambiguity resolution
- Multi-baseline (network) or single baseline
- Any combination of satellite systems
- Fully configurable frequency selection

GNSS data formats
RINEX observation files (version 2.x, 3.x, 4.x)

IMU data formats
Generic binary formats
Kongsberg Seapath MRU format

Command line support
All tools and tasks are accessible using command line tools. Users wishing full flexibility in their design of automated processing pipelines may use this approach.

Automated workflows
All steps of a typical production line, including import, data extraction and conversion, support data download, processing, PDF report generation and export are fully automated through the builtin INS workflow.

Tools and utilities
- Dedicated Kongsberg Seapath workflow
- Trajectory comparison
- Trajectory import
- Interactive transformation tool
- Grid import and viewer
- Euler angle conversion, supporting all possible rotation conventions

Front page photos: Background: E. Haaversen. Air/MMS: Field Geospatial AS. Sea: H.U. Sverdrup II, Norwegian Defence Research Establishment. Land: Norwegian Polar Institute. Map data: www.openstreetmap.org

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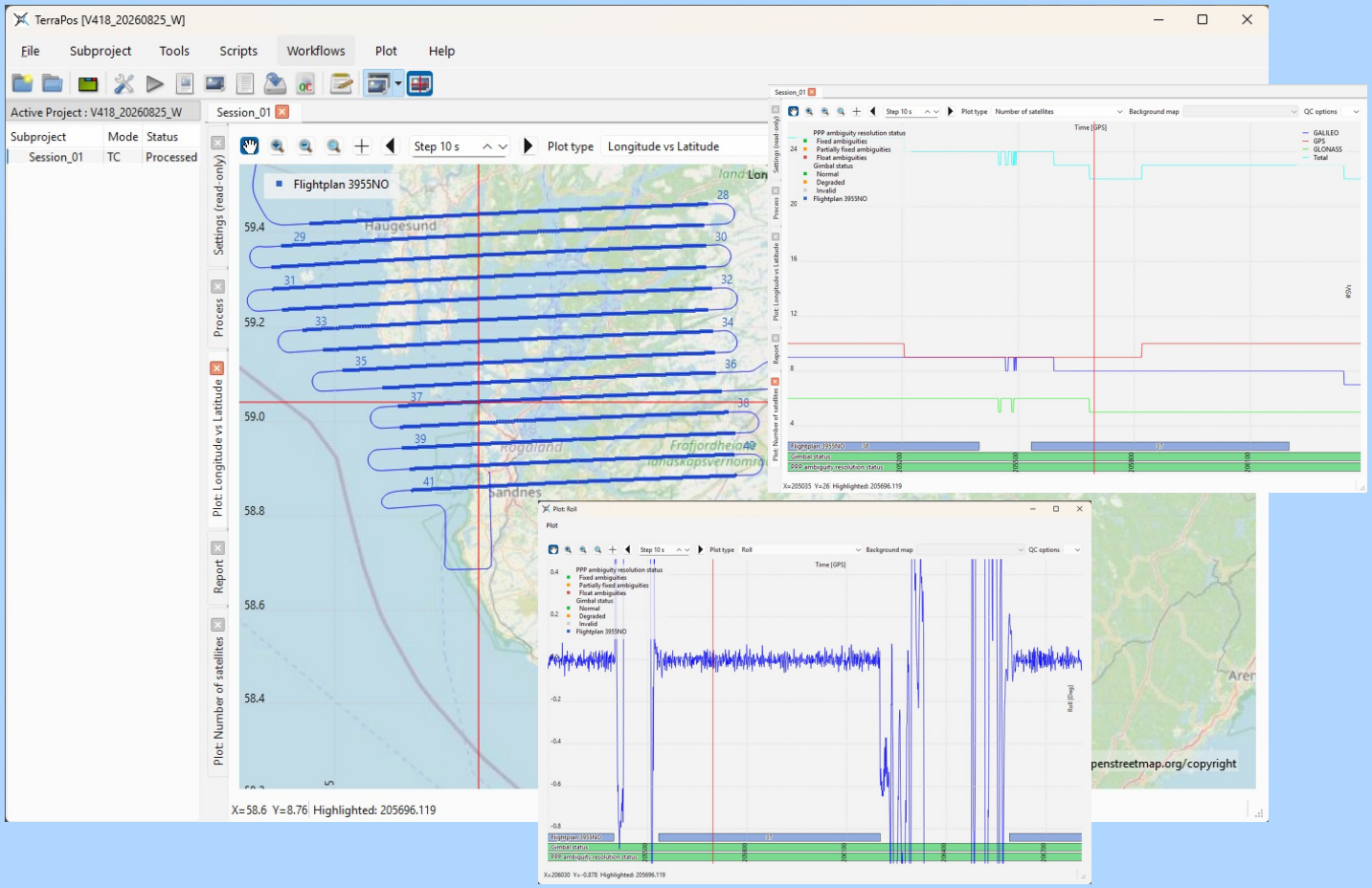

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