Free vs *pro* account

These are the characteristics of both account types:

	free	*pro*
Available algorithms	PPP, ODTS, COMP	
Disk quota	1 Gb	10 Gb
Core station data	last 30 days	from 2008/01/01
IGS products(1)	last 30 days	from 2008/01/01
Navigation messages(2)	last 30 days	from 2008/01/01
User station data in ODTS	no	yes
Max. no. of stations in ODTS	36	60
Max. no. of stations in PPP	10	60
Max. data span in PPP	1 day	5 days
Max. data span in ODTS	2 days	5 days
Ftp upload	no	yes
Deletion of user station data	after 30 days	never
Usage of public station data	PPP only	PPP and ODTS
Share your station data	no	yes
Technical support by email	limited	next-day basis

(1) Orbits and clocks needed for PPP and COMP

(2) Needed for ODTS initialization

Licenses

The license for a *magicGNSS* *pro* account is based on an annual fee. Discounts apply for research and educational organizations.

Customizations and extensions

Although *magicGNSS* can be used *as is* for many different purposes, modifications are also possible upon request for particular applications such as:

- Precise monitoring of site displacement
- Synchronization of remote clock networks
- Atmospheric and meteorological research

For further information about licenses and adaptations contact us from your *magicGNSS* account.

For news and updates check the *magicGNSS* blog:

http://magicgnss.gmv.com/wordpress

And follow *magicGNSS* on Twitter:

http://twitter.com/magicGNSS

Apply for a free account at:
magicgnss.gmv.com

magic
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This brochure is applicable to
magicGNSS version 1.0

May 2009

QUALITY DATA, ALGORITHMS AND PRODUCTS FOR THE GNSS USER COMMUNITY

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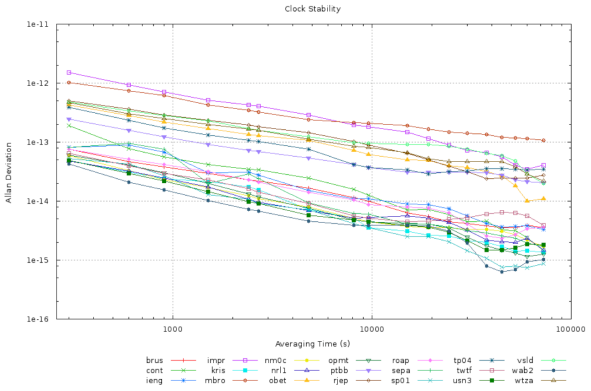
INNOVATING SOLUTIONS

What is *magicGNSS*?

magicGNSS is a web application for high-precision GNSS data processing. It allows the calculation of GPS satellite orbits and clocks, and also of station/receiver coordinates, tropospheric delay and clock. You can upload your own station data (RINEX measurement files) or use data from a global network of pre-selected *core stations* from IGS (the *International GNSS Service*).

magicGNSS is available at http://magicgnss.gmv.com. You can apply for a free account online. A *pro* account can also be requested with advanced features for professional applications.

With *magicGNSS* you can analyze your results in a convenient way through comprehensive and colorful PDF reports, and organize your processing scenarios and history within your account in an easy way with a generous disk quota.

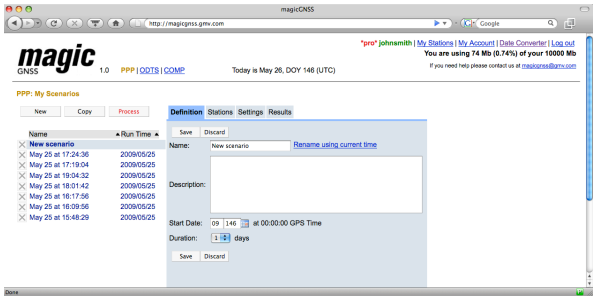


At present *magicGNSS* supports GPS data. GLONASS processing is planned for autumn 2009.

The algorithms

The algorithms that process station data in *magicGNSS* are called **ODTS** (*Orbit Determination & Time Synchronization*) and **PPP** (*Precise Point Positioning*).

ODTS is a *network solution* requiring a set of stations distributed worldwide. PPP is a *single-station solution* (although several stations can be processed together for convenience). In PPP the stations must be *static*.



The basic input measurements are pseudorange (code) and phase L1-L2 dual-frequency iono-free combinations. ODTS and PPP are based on a batch least-squares process that minimizes measurement residuals while solving for the estimated parameters.

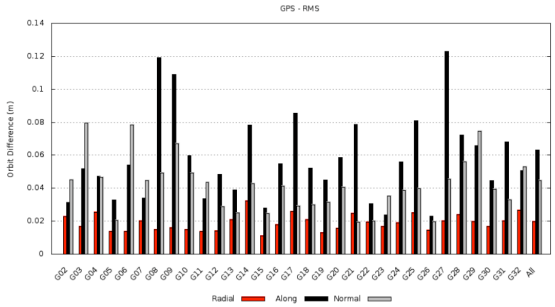
In ODTS the estimated orbits and clocks can be propagated (predicted) into the future. In the case of PPP, satellite orbits and clocks are not estimated but *fixed* to the best IGS products available (*ultra-rapid*, *rapid* or *final*).

magicGNSS generates the following products:

Product	ODTS	PPP	Format	Accuracy (RMS)
Report	✓	✓	pdf	N/A
Satellite orbits	✓	✗	sp3	~2/6/4 cm(*)
Satellite clocks	✓	✗	clk	~0.15 ns
Station clocks	✓	✓	clk	~0.15 ns
Station tropo	✓	✓	txt	<1 cm (zenith)
Station coords	✓	✓	snx	<1 cm

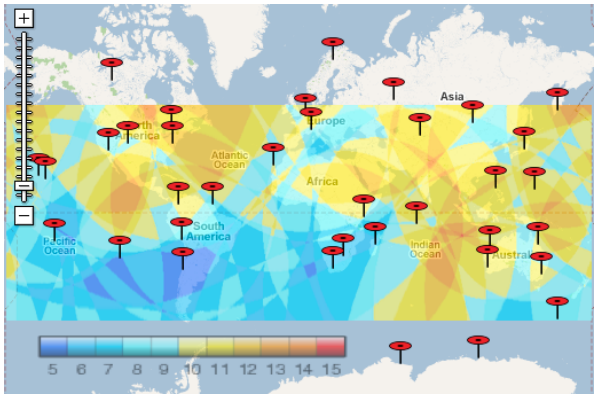
(*) In the Radial/Along/Normal directions

An additional module called **COMP** allows comparing *magicGNSS* products with IGS and among themselves.

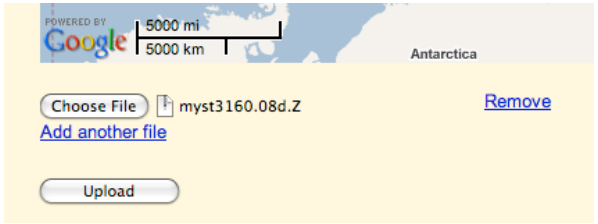


Station data

There are two types of station data within *magicGNSS*: *core station* data and *user station* data. For ODTS we maintain data from 36 IGS core stations distributed worldwide. Current core station data is available with a latency of typically one hour.



You can also upload your own station data (RINEX files) via the web or ftp. Batch upload and automation are possible using ftp.



You can upload normal or compressed data files, and if your RINEX file does not have P1, the C1 code will automatically be converted to P1.

Station data uploaded and shared by other users can also be processed.

Satellite availability and NANUs

NANUs are messages published by GPS operators to inform the users about events affecting satellite availability. *magicGNSS* automatically downloads NANUs as they are issued and extracts the relevant information so that only healthy satellites will be considered in the data processing.