



ITRF, combinations and site co-locations

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Keynote on behalf of

- ITRS Product Center
- IAG Sub-Commission 1.2
 - ◆ Global Reference Frames



Basic concepts

- Site equipment and survey
- Site co-location
- Global Geodetic Observatory

Site equipment and survey

- Site: topographic location with permanent or temporary instruments, and markers
- Site survey: connexion between points with conventional or GPS surveys
- Issues:
 - ◆ Perennity of the site (partial destructions)
 - ◆ Stability of various components of the site
 - ◆ Calibration of instruments (e.g. SLR)
 - ◆ Footprint, link to the crust
 - ◆ Availability to users (site catalogue)



Site co-location

- Site with multiple instruments
 - ◆ Same technique or not
 - ◆ Simultaneous or not
- Additional importance of site survey
 - ◆ Comparisons or combinations
 - ◆ Mono- or multiple-technique
- Site survey as a specific technique

Global Geodetic Observatory (GGO)

- Various investigations
 - ◆ In former CSTG, ISGN label
 - ◆ Global Observing Systems, IGGOS...
- GGO as a High level Site co-location
 - ◆ Multiplicity of techniques
 - ◆ Interdisciplinarity: geodesy and others (meteo, time, tide gauges, sismo...)
 - ◆ Perennity of datum definition

ITRF viewpoint

- Importance of site co-locations in ITRF determination
 - ◆ Multi-technique combination (ties between tracking instruments)
 - ◆ Redundancy for quality assesment, statistical tests
 - ◆ Datum definition (ITRF Core Co-location Site)
- Importance of local survey, as additional technique , like SLR...
 - ◆ SINEX with time variations

IAG SC1.2 Global Reference Frames

- Proposed joint WG with IERS:
 - ◆ WG2 Global geodetic observatories,
- Topics :
 - ◆ Concept of GGO
 - ◆ Site surveys
 - ◆ Site effects
 - ◆ Co-location strategies



Conclusions

- Leading role of IERS for these issues
- Close joint work between IERS and IAG (see Markus Rothacher contribution)
- Fundamental for ITRF (see Zuheir Altamimi position paper)
- This meeting is an opportunity to have progresses for a better recognition of local survey role