

Layout of Local Tie Report

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with contributions of participants of IERS Workshop on site co-location

Preamble

The following layout is meant as a report template for colleagues who have carried out local surveys for the purpose of local tie determinations but could also be used for other purposes like stability measurements. It has been thoroughly discussed by all attendees of the IERS Workshop on site co-location at Matera on October 23-24, 2003.

Colleagues writing reports should fill out the sections and subsections as they apply to their work and mark others as not applicable (n/a). Following this template should also prompt considerations which may otherwise be left out accidentally.

A Site Survey Document is currently being written and discussed which explains site survey procedures in more details. The report template should be understood in close connection with this Site survey Document. Following this template ensures that interested parties have easy access to all the necessary details and to the intermediate and final results of surveys. All survey reports will be made available on an IERS Web page.

Report on Local Survey at [name of station] (year)

1 Site description

[site name, site number, domes number, general description, name and institution carrying out the survey, date of survey, maps in various scales]

2 Instrumentation

2.1 Tachometers, EDM, Theodolites

2.1.1 Description

[automatic height index, precision stated by manufacturer ...]

2.1.2 Calibrations

[frequency, additive constants, with reflector, with reflecting tape ...]

2.1.3 Auxiliary Equipment

[Barometer, thermometer ...]

2.2 GPS units

2.2.1 Receivers

2.2.2 Antennas

2.2.3 Analysis software, mode of operation

2.3 Levelling

2.3.1 Levelling instrument (incl. precision)

2.3.2 Levelling rods

2.3.3 Checks carried out before measurements

[additive corrections for EDM, calibration of levelling rods ...]

2.4 Tripods

2.5 Forced centering devices

2.6 Targets, reflectors

2.7 Additional instrumentation

[optical plumbing instruments ...]

3 Measurement setup

3.1 Ground network

3.1.1 Listing

[matrix with old names, new names, monumentation, measurements carried out on individual points ...]

3.1.2 Map of network

3.2 Representation of reference points

[e.g. model of indirect representation]

3.2.1 VLBI

3.2.2 SLR

3.2.3 GPS

3.2.4 DORIS

4 Observations

4.1 Conventional survey

[distances, directions, heights of instruments and reflectors ...]

4.2 Levelling

[loops, gravimetry ...]

4.3 GPS

[including length(s) of GPS session(s) ...]

4.4 General comments

5 Data analysis and results

[including intermediate results ...]

5.1 Terrestrial survey

5.1.1 Analysis software

5.1.2 Topocentric coordinates and covariances

5.1.3 Correlation matrix

5.1.4 Reference temperature of radio telescope [for thermal expansion]

5.2 GPS

5.2.1 Analysis software

5.2.2 Results

[geocentric coordinates and covariances]

5.3 Additional parameters

[e.g. axis offsets]

5.4 Transformations

[UTM, Gauss-Krueger, topocentric into geocentric ...]

5.5 Description of SINEX generation

5.6 Discussion of results

[Quality, residuals ...]

5.7 Comparison with previous surveys

6 Planning aspects

[Network configuration, personnel, duration, weather ...]

7 References

7.1 Name of person responsible for observations

[incl. contact information]

7.2 Name of person responsible for analysis

[incl. contact information]

7.3 Location of observation data and results archive

[incl. contact information]