IERS WG 2 on Site Surveys and Collocations

Jointly with GGOS Ground Networks and Communications WG

18:00 – 21:30 18th April 2007

Agenda

- **Introduction – *G Johnston***
- **Leica visit and demonstration – *Chopo Ma***
- **A GPS concept for Local Tie surveys – *Yoas Bar-Sever***
- **Ground System Network survey control – *Peter Sperber***
- **Engineering Geodesy / IAG Sub0Commision 4.2 – *Heribert Kahmen***
- **Recent network control activity in Australia - *G Johnston***
- **On ties to radio telescopes using indirect method - *P Sarti***
- **A Low Cost Micrometer – *M Pearlman***

Introduction

- Accurate (< 1mm) connection between technique reference points of collocated techniques
- Stability monitoring of space geodetic techniques using terrestrial connections
- Quantification and elimination of intra-technique systematics that alias themselves as errors in local ties

WG2 Goals

- Develop Site Survey Standards and recommended practices
- Coordinate Survey activities and production of Tie results into SINEX files for delivery to the ITRF product centre
- Undertake research into Site Surveys and intra-technique biases that effect site survey
- Liaise with the other services and combination centres on future requirements for site surveys

WG2 web site

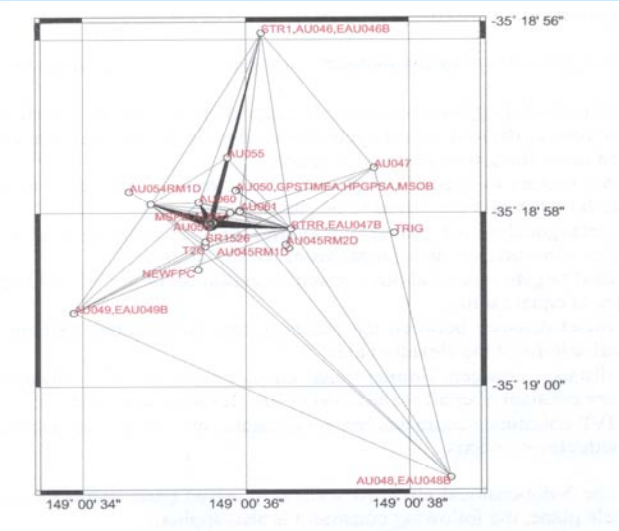
- http://www.iers.org/iers/about/wg/wg2.
- Contains links to relevant WG2 documents including draft survey report format document

Technical issues for consideration

- Transformation of tie results from topocentric to ITRF
- GPS / GNSS antenna characterisation in tie surveys
- VLBI telescope thermal signatures during survey campaigns and routine observation
- Effect of gravitational sag on IVP estimates
- Monitoring Stability or Temporal variation of Local Tie estimates

STROMLO LOCAL TIE NETWORK

AU046 (NORTH PIER)



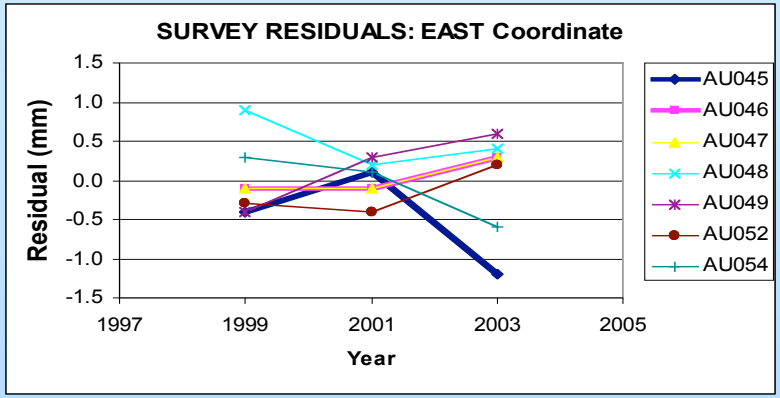
2” in latitude = 62 metres

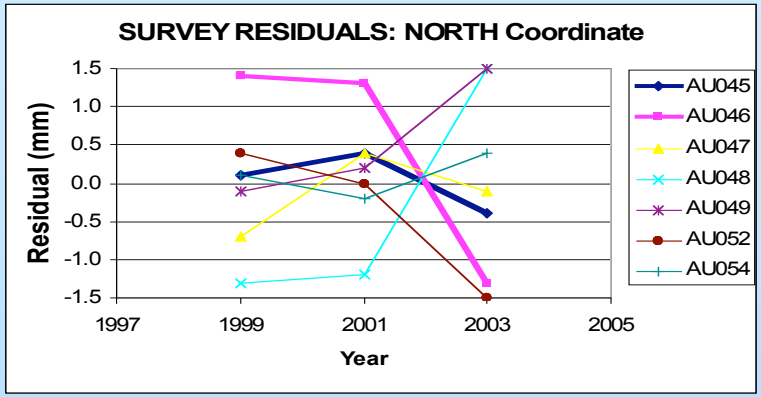
FIG 1: 4 SLR CAL TARGETS ARE AT THE OUTERMOST VERTICES

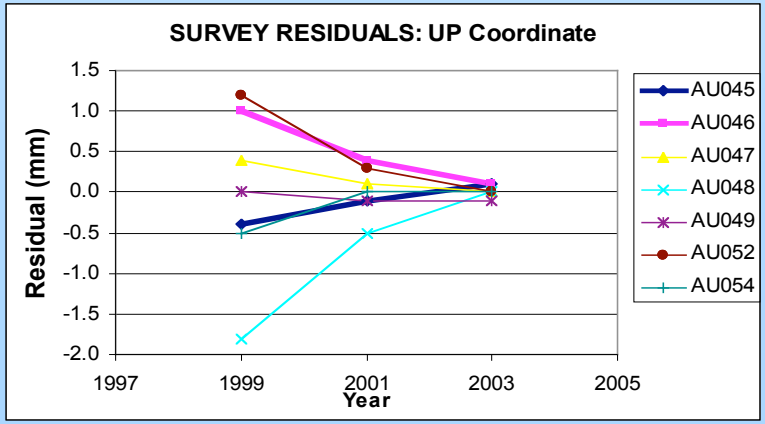
NORTH PIER WITH GPS ANTENNA AND SLR CAL TARGET

SURVEY VARIABILITY

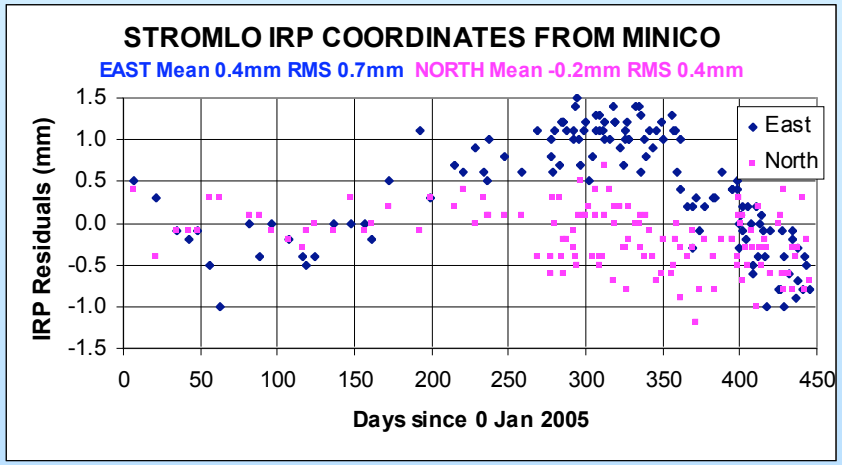
Spans 3 to 3.5 mm, hence RMS ≤ 0.7 mm. The formal solution RMSs are ~ 0.5 mm.

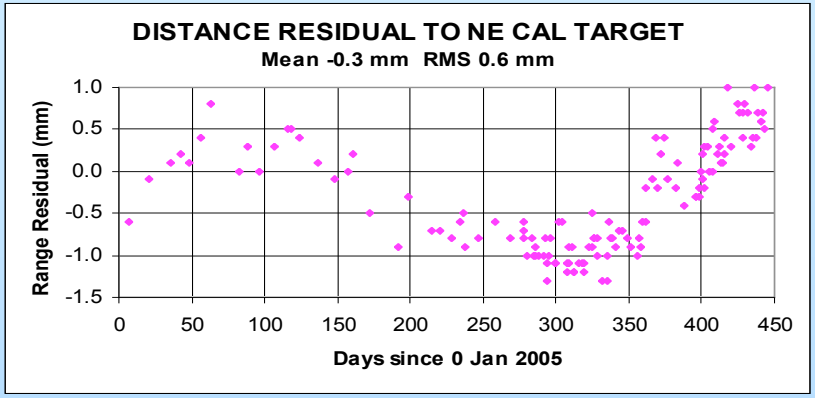


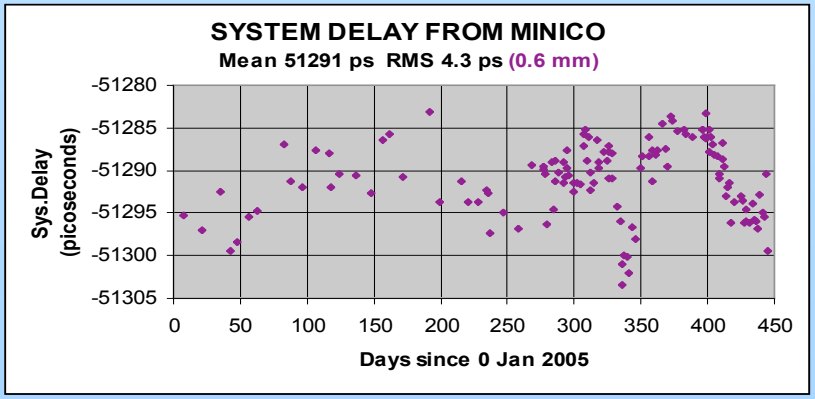




MINICO RESULTS







Syowa, Antarctica

Visited in December 2006

Survey plan developed

Actual survey likely for December 2008

Planned Activities

- Re-survey of Tidbinbilla VLBI
- Resurvey of Hobart VLBI with connection to new radio telescope
- Resurvey of Yarragadee with network design done for new radio telescope and calibration piers