IVS VLBI2010 Workshop on
Technical Specifications (TecSpec)

Bad Kötzting, Germany

PROGRAM

Thursday, March 1, 2012

VLBI2010 System Specification

Session 1: Front End
08:30–08:45 Welcome and opening remarks [Harald Schuh, Ulrich Schreiber]
08:45–09:30 Review of the VLBI2010 concept and general specifications [Bill Petrachenko]
09:30–10:00 Overview of the NASA/Haystack VLBI2010 receiver frontends [Christopher Beaudoin]
10:00–10:30 Eleven Feed, LNA, Cryo: design and system integration of 2–14 GHz
Eleven feed receiver for VLBI2010 [Miroslav Pantaleev, Jian Yang, Terese Ekebrand, Per-Simon Kildal, Hasan Raza, Jungang Yin, Jan Jönsson, Leif Helldner, Anders Emrich, Benjamin Klein]

10:30–11:00 Coffee break

Session 2: Calibration and Signal Distribution
11:00–11:25 Calibration systems: noise, phase, and cable [Brian Corey]
11:25–11:50 Receiver signal downlink considerations and implementation on the GGAO 12-m antenna [Christopher Beaudoin]
12:15–12:30 H-maser performance requirements, environmental and operational issues [Xavier Vernez]
12:30–12:45 Time and frequency distribution [Brian Corey]

12:45–13:45 Lunch break

Session 3: Signal Processing, Recording, and e-VLBI
13:45–14:10 Flexible down-converter [Brian Corey]
14:10–14:35 Digital back ends [Gino Tuccari]
14:35–15:00 High-speed data systems for VLBI2010 [Alan Whitney]
15:00–15:25 Electronic VLBI data transfer (e-VLBI) for VLBI2010 [Alan Whitney]

15:30–16:00 Coffee break
Session 4: Poster Session and General Discussion
16:00−17:15 Poster session:

- The RAEGE triband S/X/Ka feed and receiver development  [José Antonio López Pérez, Félix Tercero Martínez]
- Specification of a new antenna for VLBI2010 to be constructed in Japan  [Yoshihiro Fukuzaki, Misao Ishihara, Jiro Kuroda, Shinobu Kurihara, Kensuke Kokado, Ryoji Kawabata]
- Development of Wide Band Feeds  [Hideki Ujihara]
- FAST telescope as a VLBI station  [Zhisheng Gao and Chengjin Jin]
- New VLBI observing system “OCTAVE-Families” to support VDIF specifications with 10 GbE for VERA, JVN, and Japanese e-VLBI (OCTAVE)  [Tomoaki Oyama, Yusuke Kono, Noriyuki Kawaguchi, Hideyuki Kobayashi]
- RF Direct Sampler (OCTAD)  [Yusuke Kono, Tomoaki Oyama, Noriyuki Kawaguchi]
- The status of the KVN (Korean VLBI Network) phase compensation system development  [Do-Heung Je, Moon-Hee Chung, Soo-Yeon Kim, Won-Kyu Lee]
- Radio environment survey at Kashima and Koganei  [Mamoru Sekido and Kazuhiro Takefuji]
- Two weeks of continuous remote attendance during CONT11  [Alexander Neidhardt, Martin Ettl, Matthias Mühlbauer, Christian Plötz, Hayo Hase, Sergio Sobarzo, Cristian Herrera, Eric Oñate, Pedro Pedreros, Octavio Zapata]
- Continuous integration and quality control during software development  [Martin Ettl, Walter Brisken, Reiner Dassing]
- Core network station in Ny-Ålesund  [Ina Elsrud]
- Single-dish performance of KVN 21-m radio telescopes at 22/43GHz  [Sang-Sung Lee, Do-Young Byun, Seog-Tae Han, Do-Heung Je and the KVN Team]
- Radio frequency interference at QUASAR network observatories and next generation system for geodetic VLBI  [Gennadii Ilin]
- Broadband phase calibration system  [Dmitrij Ivanov and Andrey Karpichev]
- Cryo-electronic radiometers for VLBI2010  [Alexander Ipatov, Vladimir Chmil, Oleksandr Pylypenko]
- The digital data acquisition system of the new Russian VLBI network  [Dmitry Marshalov and Evgeny Nosov]
- Joint project of the VLBI2010 system of Moscow and Kazan universities  [Vladimir Zharov, Albert Aganov, Alexander Gusev, Marat Mingaliev, Yury Nefedev, Nail Sakhibullin, Oleg Sherstukov, Oleg Titov, Slava Turyshhev]
- The progress of the Shanghai 65-m telescope  [Bin Li]
- The progress of the Chinese VLBI Data Acquisition System (CDAS)  [Xiu Zhong Zhang]
- Tri-band Dewar design for the Wettzell twin telescopes  [John Oliver, Rémi Reyet, Steve Rawson]
- Short-term instrumental phase stability of the KVN receiving system  [Taehyun Jung, Do-Young Byun, Sooyeon Kim Do-Heung Je, Bong Won Sohn]
- Research on VLBI application for time and frequency transfer at NICT  [Mamoru Sekido]
- The Potential for a Ka-band (32 GHz) Worldwide VLBI Network  [Chris Jacobs, Uwe Bach, Francisco Colomer, et al.]

17:15−18:00 General discussion
VLBI2010 Antenna Specification

Session 5: Antenna 1
08:30–09:00  VLBI2010 antenna and site recommendations  [Brian Corey]
09:00–09:45  Practical issues for writing antenna specifications  [Hayo Hase]
09:45–10:15  Study #1: Building the AuScope VLBI array  [Jim Lovell]

10:15–10:45  Coffee break

Session 6: Antenna 2
10:45–11:15  Study #2: Development and implementation of the GGAO 12-m VLBI2010 antenna  [Arthur Niell]
11:15–11:30  Study #3: Twin Telescopes Wettzell (TTW): ensuring the long-term stability of the TTW  [Thomas Klügel]
11:30–11:45  Critical moments of a radio telescope construction  [Gerhard Kronschnabl]
11:45–12:15  Study #4: The RAEGE VLBI2010 Radiotelescope  [José Antonio López Fernández]

12:15–13:15  Lunch break

Session 7: Antenna 3
13:15–14:00  General discussion of antenna issues

Session 8: Antenna 4
14:00–18:00  Tour of TTW (including discussion of site preparation)
[Gerhard Kronschnabl, Alexander Neidhardt, Thomas Klügel, Hayo Hase, and others]