# New Developments at AIUB/CODE

Stefan Schaer

Astronomical Institute, University of Berne, Switzerland
stefan.schaer@aiub.unibe.ch

EUREF LAC Workshop, Graz, Austria

September 18–19, 2003

# New Developments at AIUB/CODE (1)

- Troposphere:
  - Piece-wise linear (instead of constant) parameter representation
  - A priori model for hydrostatic component (mapped with DRYNMF)
  - Horizontal troposphere gradient parameters supported by ADDNEQ2
  - “Fixing” of gradient parameters on NEQ-level
  - Introduction of (globally) estimated troposphere delays on LEQ-level
- Ocean loading:
  - Changed from FES95.2 to GOT00.2 model
  - AIUB BLQ computation service will be stopped
  - Web-based BLQ computation by Scherneck: `http://www.oso.chalmers.se/ loading/`

# New Developments at AIUB/CODE (2)

- Absolute PCV corrections for satellite and receiver antennas
  - Modified/extended `SATELLIT.` file
  - Extended "`PHAS_IGS.01`" file
- RXOBV3 revised in regard to automatic data processing
- Antenna radom coes (20-character antenna/receiver names)

# New Developments at AIUB/CODE (3)

- ADDNEQ2:
  - ADDNEQ(1) no longer available
  - Improved output (“grep”-capable!)
  - Sorting of all involved parameters (in alphabetical order)
  - Detailed statistics (e.g. concerning previously pre-eliminated parameters)
  - New-formatted station info (STA) file
  - STA file converter available (to extract info from HTR, STN, TRN)
  - Output of troposphere parameters in “regular” SINEX format
  - Variance component estimation not yet implemented
  - Additional parameter pre-elimination capabilities
  - Fortran 90 (dynamic array allocation ...)

# New Developments at AIUB/CODE (4)

- IERS 2000 conventions
  - Tides: TIDE96 replaced by TIDE2000 (provided by ROB)
  - Nutation (IAU2000)
- P1-C1 code biases:
  - CC2NONCC utility no longer needed
  - Redefined `RECEIVER.` file
- PRETAB:
  - Satellite orbits indicated with accuracy code “0” can be ignored
  - Accuracy code threshold value may be specified

# New Developments at AIUB/CODE (5)

- GLONASS:
  - Final, rapid, as well as ultra-rapid GNSS orbits generated at CODE: `ftp://ftp.unibe.ch/aiub/CODE/COD.EPH_U`
  - Software continuously checked in terms of “GNSS”
  - `SAT_yyyy.CRX` and `GPS_yyyy.CRX`
  - RXOBV3 and GPSEST with satellite system switch

# New Developments at AIUB/CODE (6)

- New menu system V5.0
- New BPE (Bernese Processing Engine) V5.0
  - Old (V4.2) PCFs (Process Control Files) still usable
  - Perl as main BPE script language
  - Simple and advanced Super-BPE mode
- Release of Bernese GPS Software Version 5.0:
  - LEO-capable
  - Real kinematic applications possible
  - Several BPE examples planned and already in preparation (PPP, RNX2NEQ, NEQ2SNX, CLK, ION)