



TECHNISCHE
UNIVERSITÄT
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Introduction

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Occam

- ❏ Occam 6.1 LSM had some weaknesses
 - ❏ equinox-based transformation between TRS and CRS only
 - ❏ piecewise linear rates starting with the first observation
 - ❏ old Fortran with COMMON blocks

Occam

- ❏ Occam 6.1 LSM had some weaknesses
 - ❏ no graphical interface
 - ❏ no handbook
 - ❏ developers separated by 10.000 km / 12 h
 - ❏ ...

First idea to use Matlab ..

 goes back to Thomas Hobiger in 2005



Why Matlab?

- 📌 our students are experts in Matlab, but not in Fortran or C++
- 📌 nor are we
- 📌 It is expensive, but there are non-commercial alternatives or we can provide executables

Why did we develop VieVS?

- ▶ to have VLBI software for students
 - ▶ to get them involved with bachelor, diploma and ph.d. theses
 - ▶ they can add their own tools
- ▶ to have a clear structure
 - ▶ new modules can be added rather easily

Why did we develop VieVS?

- 📌 easy functional model with piecewise linear offsets at integer hours in the sense of GGOS
- 📌 non-rotating origin right from the beginning (no equinox-based transformation)

Why did we develop VieVS?



Policy

- 📌 Available for registered users
 - 📌 easier to get feedback
 - 📌 to be able to report bugs to the users
- 📌 We are open for co-operation
 - 📌 new modules developed at other institutes
 - 📌 (e.g. co-authorship in VieVS handbook)

Policy

- ❑ OPT and outlier files will not be generally made available
 - ❑ these make the solutions different



Outlook

Data format

- 📌 New IVS WG4 data format to be implemented (netcdf)

Troposphere delays

- ☛ from external files
 - ☛ ray-traced delays, VMF1, site pressure, NWM pressure, ...
- ☛ only GMF/GPT internally

VieVS Face-lifting

 one interface

SINEX

- 📌 Results in SINEX format
- 📌 getting operational in Vienna


Close gap with raw observations

- 📌 determination of ambiguities
- 📌 (delay-rate) solution
- 📌 phase solution for VLBI2010?
- 📌 software correlator for short sessions???

Kalman Filter

- 📌 and equivalent classical least-squares adjustment

System

 Test Octave and executables

Source structure

 Volunteers?



Documentation!!