Astrometric PrEparation Software
User Requirements

Conceptual Design Review

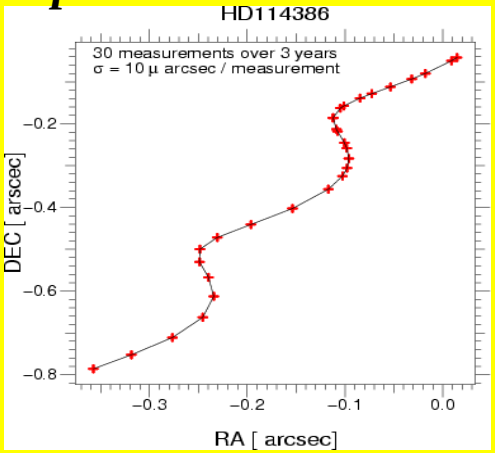
Leiden, September 30th 2004

D. Ségransan, L. Weber, Observatoire de Genève

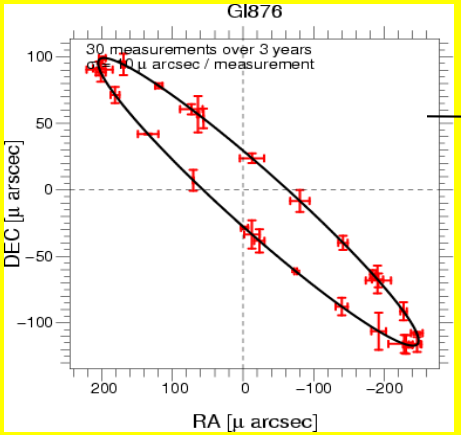
From Astrometric measurements to Orbits

Astrometric measurements

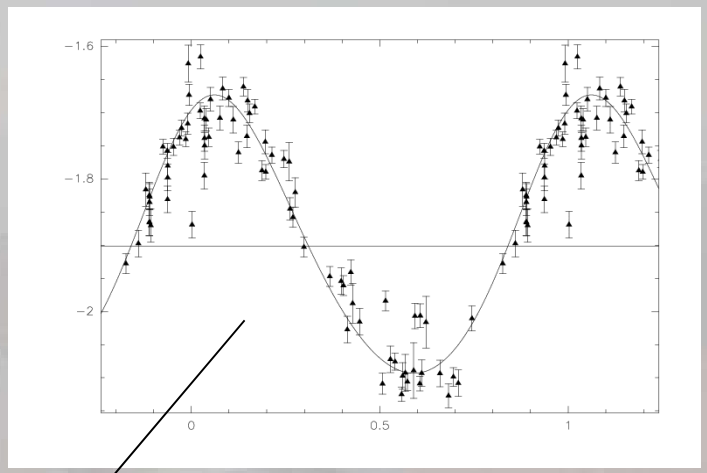
parallactic motion



astrometric orbit



Radial velocity orbit



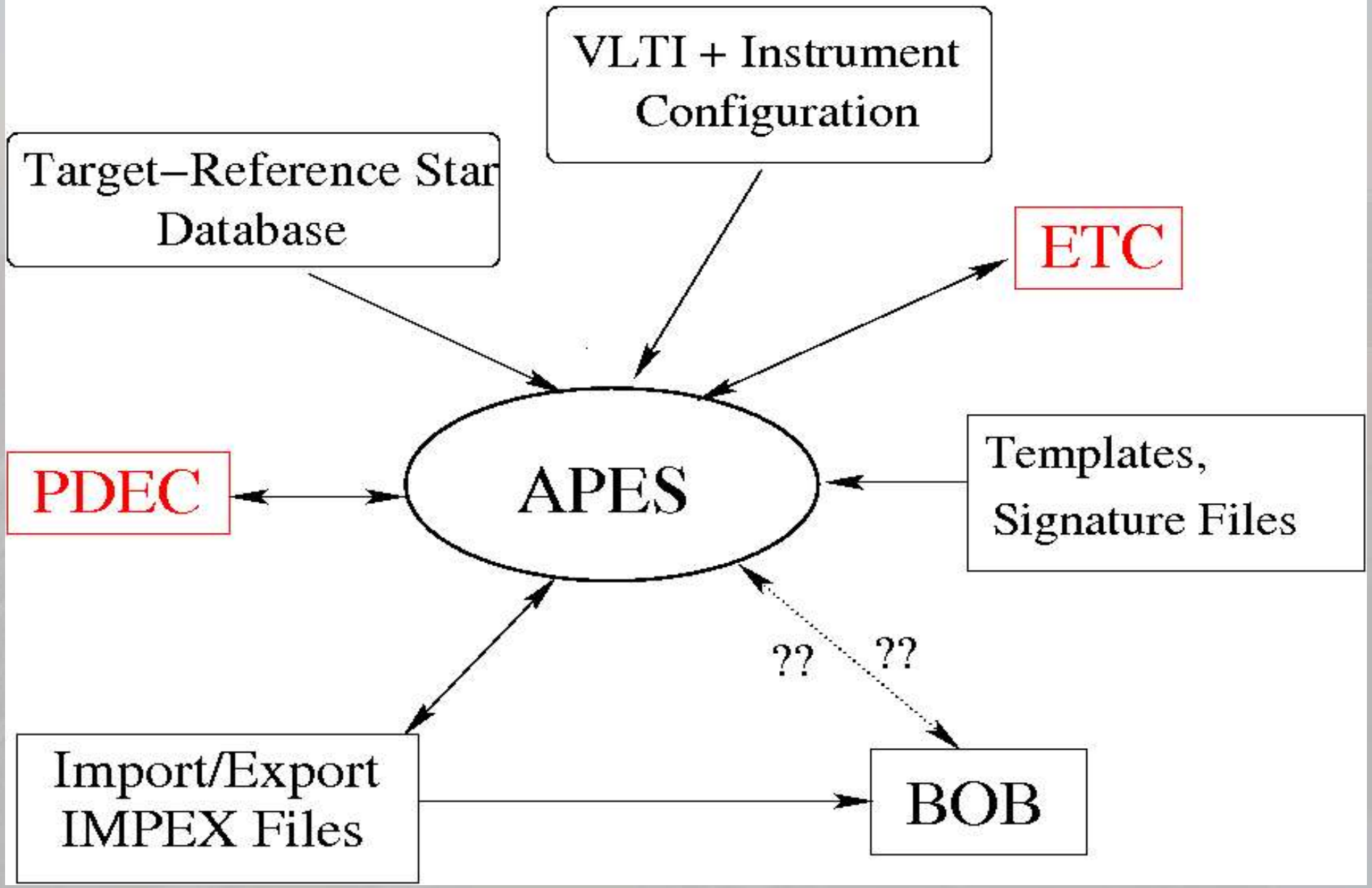
P,e,K1,T0

orbital parameters

P,e, i, T0

Masses

Astrometric PrEparation Software



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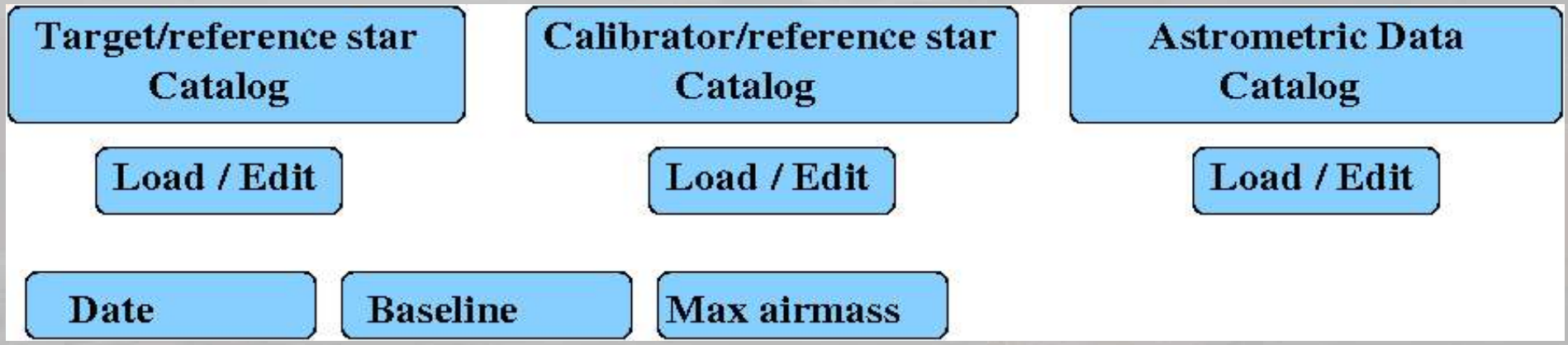

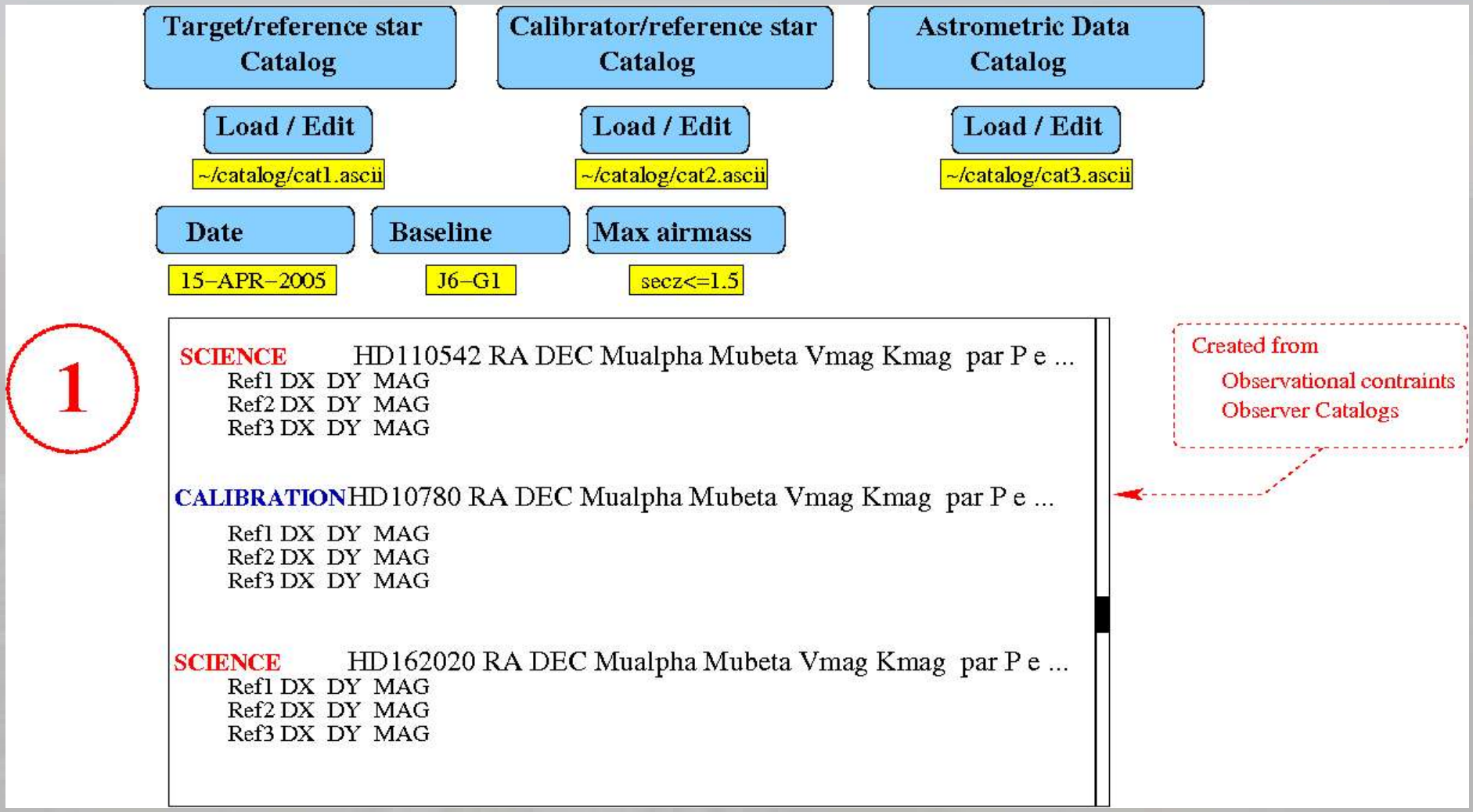
Target/reference star Catalog
Calibrator/reference star Catalog
Astrometric Data Catalog
Load / Edit
~/catalog/cat1.ascii
Load / Edit
~/catalog/cat2.ascii
Load / Edit
~/catalog/cat3.ascii
Date
15-APR-2005
Baseline
J6-G1
Max airmass
secz<=1.5
1
SCIENCE HD110542 RA DEC Mualpha Mubeta Vmag Kmag par P e ...
Ref1 DX DY MAG
Ref2 DX DY MAG
Ref3 DX DY MAG
CALIBRATION HD10780 RA DEC Mualpha Mubeta Vmag Kmag par P e ...
Ref1 DX DY MAG
Ref2 DX DY MAG
Ref3 DX DY MAG
SCIENCE HD162020 RA DEC Mualpha Mubeta Vmag Kmag par P e ...
Ref1 DX DY MAG
Ref2 DX DY MAG
Ref3 DX DY MAG
Created from
Observational contraints
Observer Catalogs

Target/reference star Catalog

Load / Edit

~/catalog/cat1.ascii

Calibrator/reference star Catalog

Load / Edit

~/catalog/cat2.ascii

PRIMA–DDL Data Catalog

Load / Edit

~/catalog/cat3.ascii

Date

15–APR–2005

Baseline

J6–G1

Max airmass

secz<=1.5

1

SCIENCE HD110542 RA DEC Mualpha Mubeta Vmag Kmag par P e ...
Ref1 DX DY MAG
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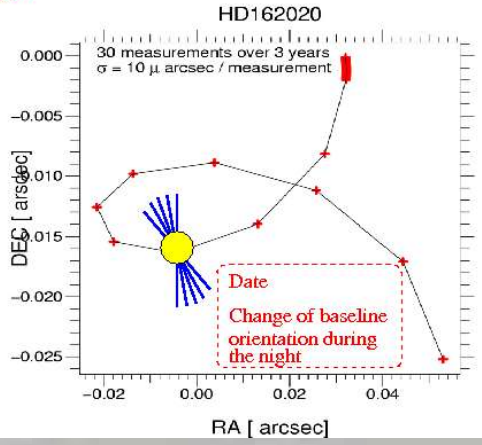
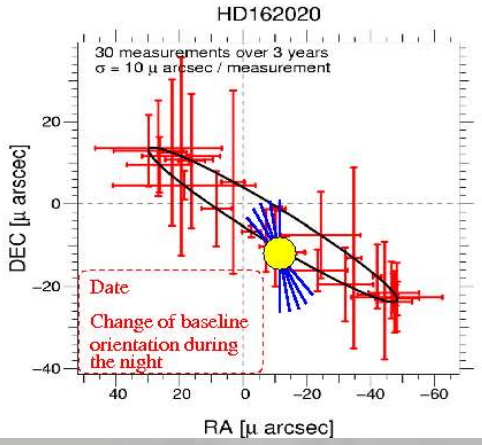
SCIENCE HD162020 RA DEC Mualpha Mubeta Vmag Kmag par P e ...
Ref1 DX DY MAG
Ref2 DX DY MAG
Ref3 DX DY MAG

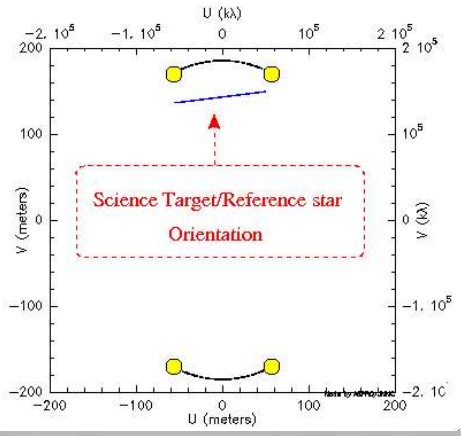
Created from
Observational contraints
Observer Catalogs

Created using PDEC

2







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   Ref1 DX  DY  MAG
   Ref2 DX  DY  MAG
   Ref3 DX  DY  MAG

CALIBRATION HD10780 RA DEC Mualpha Mubeta Vmag Kmag  par P e ...
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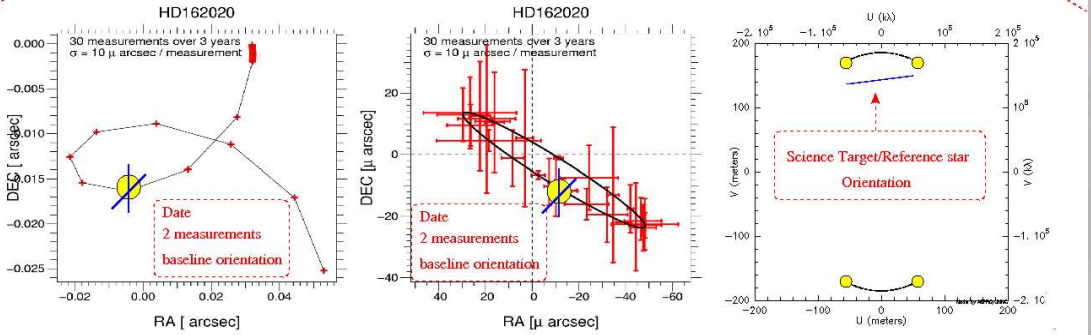
   Ref2 DX  DY  MAG
   Ref3 DX  DY  MAG

SCIENCE      HD162020 RA DEC Mualpha Mubeta Vmag Kmag  par P e ...
   Ref1 DX  DY  MAG
   Ref2 DX  DY  MAG
   Ref3 DX  DY  MAG
```

Created from
Observational contraints
Observer Catalogs

Created using PDEC

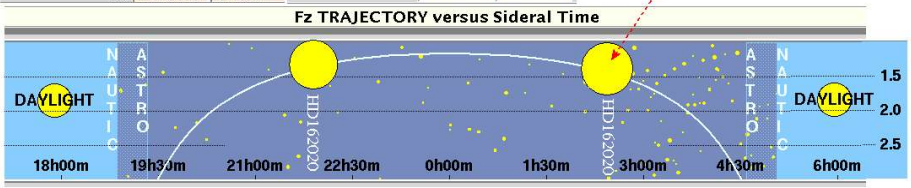
2

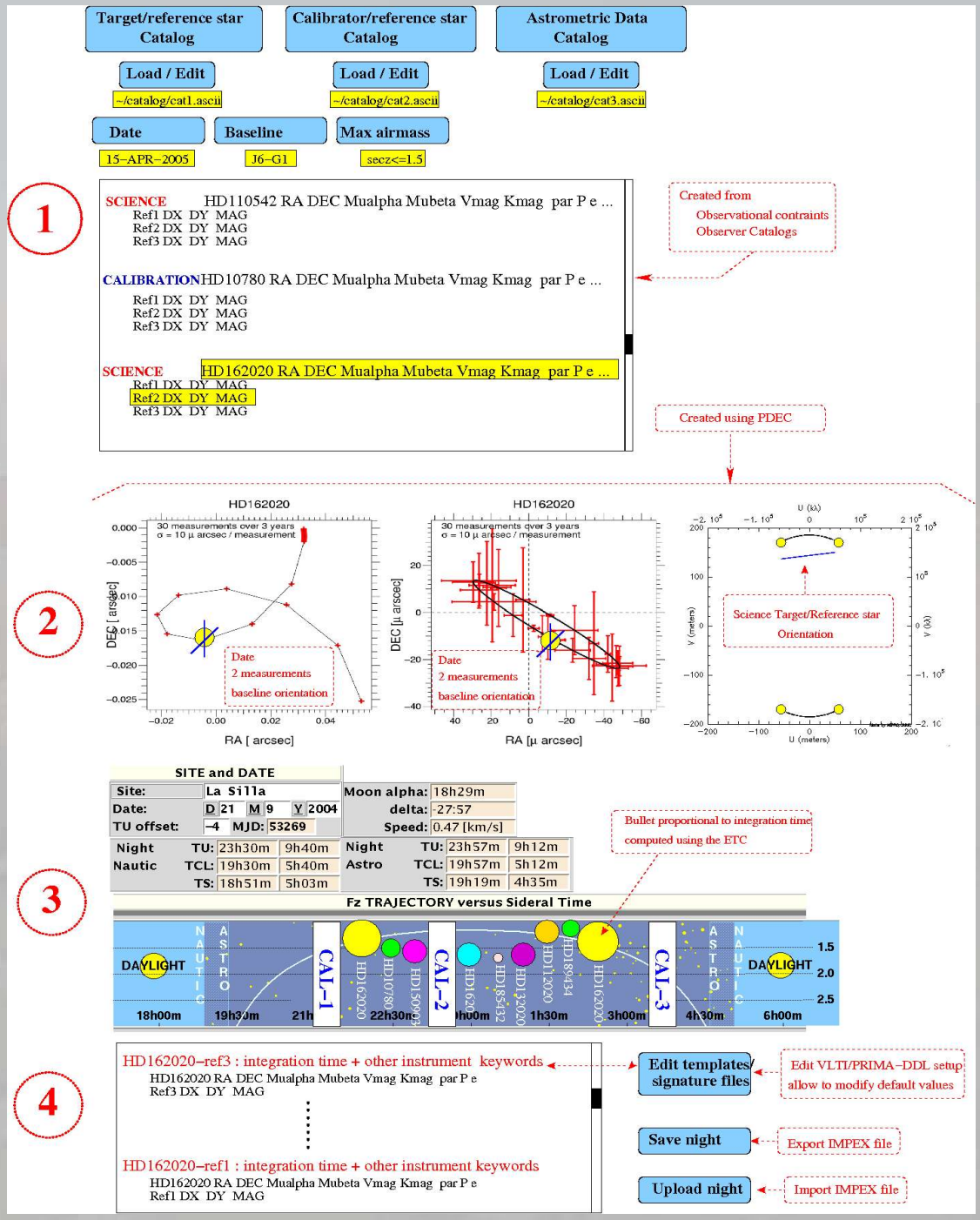


3

SITE and DATE					
Site:	La Silla		Moon alpha:	18h29m	
Date:	D 21 M 9 Y 2004		delta:	-27:57	
TU offset:	-4 MJD: 53269		Speed:	0.47 [km/s]	
Night Nautic	TU:	23h30m – 9h40m	Night Astro	TU:	23h57m – 9h12m
	TCL:	19h30m – 5h40m		TCL:	19h57m – 5h12m
	TS:	18h51m – 5h03m		TS:	19h19m – 4h35m

Bullet proportional to integration time
computed using the ETC

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SCIENCE HD162020 RA DEC Mualpha Mubeta Vmag Kmag par P e ...
Ref1 DX DY MAG
Ref2 DX DY MAG
Ref3 DX DY MAG
Created from
Observational contraints
Observer Catalogs
Created using PDEC
2
HD162020
30 measurements over 3 years
σ = 10 μ arcsec / measurement
DEC [arcsec]
RA [arcsec]
Date
2 measurements
baseline orientation
HD162020
30 measurements over 3 years
σ = 10 μ arcsec / measurement
DEC [μ arcsec]
RA [μ arcsec]
Date
2 measurements
baseline orientation
U (kλ)
V (kλ)
V (meters)
U (meters)
Science Target/Reference star
Orientation
3
SITE and DATE
Site: La Silla
Date: D 21 M 9 Y 2004
TU offset: -4 MJD: 53269
Moon alpha: 18h29m
delta: -27:57
Speed: 0.47 [km/s]
Night Nautic TU: 23h30m 9h40m
TCL: 19h30m 5h40m
TS: 18h51m 5h03m
Night Astro TU: 23h57m 9h12m
TCL: 19h57m 5h12m
TS: 19h19m 4h35m
Bullet proportional to integration time
computed using the ETC
Fz TRAJECTORY versus Sideral Time
NAUTIC
ASTRO
DAYLIGHT
CAL-1
CAL-2
CAL-3
HD162020
HD10780
HD150997
HD185432
HD132020
HD189434
18h00m
19h30m
21h
22h30m
1h00m
1h30m
3h00m
4h30m
6h00m
1.5
2.0
2.5
4
HD162020-ref3 : integration time + other instrument keywords
HD162020 RA DEC Mualpha Mubeta Vmag Kmag par P e
Ref3 DX DY MAG
HD162020-ref1 : integration time + other instrument keywords
HD162020 RA DEC Mualpha Mubeta Vmag Kmag par P e
Ref1 DX DY MAG
Edit templates/ signature files
Edit VLTI/PRIMA-DDL setup allow to modify default values
Save night
Export IMPEX file
Upload night
Import IMPEX file

APES User Requirements

Availability

- hosted at ESO, web-based interface or downloaded from ESO like P2PP

- used online at Paranal (direct access to BOB)

Questions ?

- Time/target driven constraints for the observations?

- Visitor/Service mode?