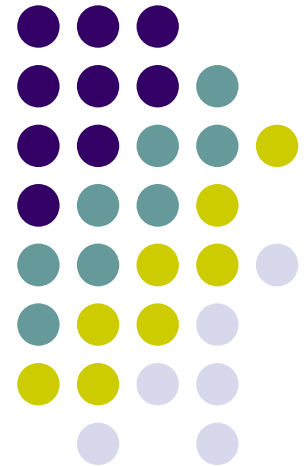
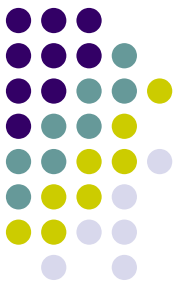


Sternbedeckungen durch Kleinplaneten

Vorhersagen und die Präsentation im Web

Mike Kretlow – KPT 2015 in Essen





Producers of occultation predictions

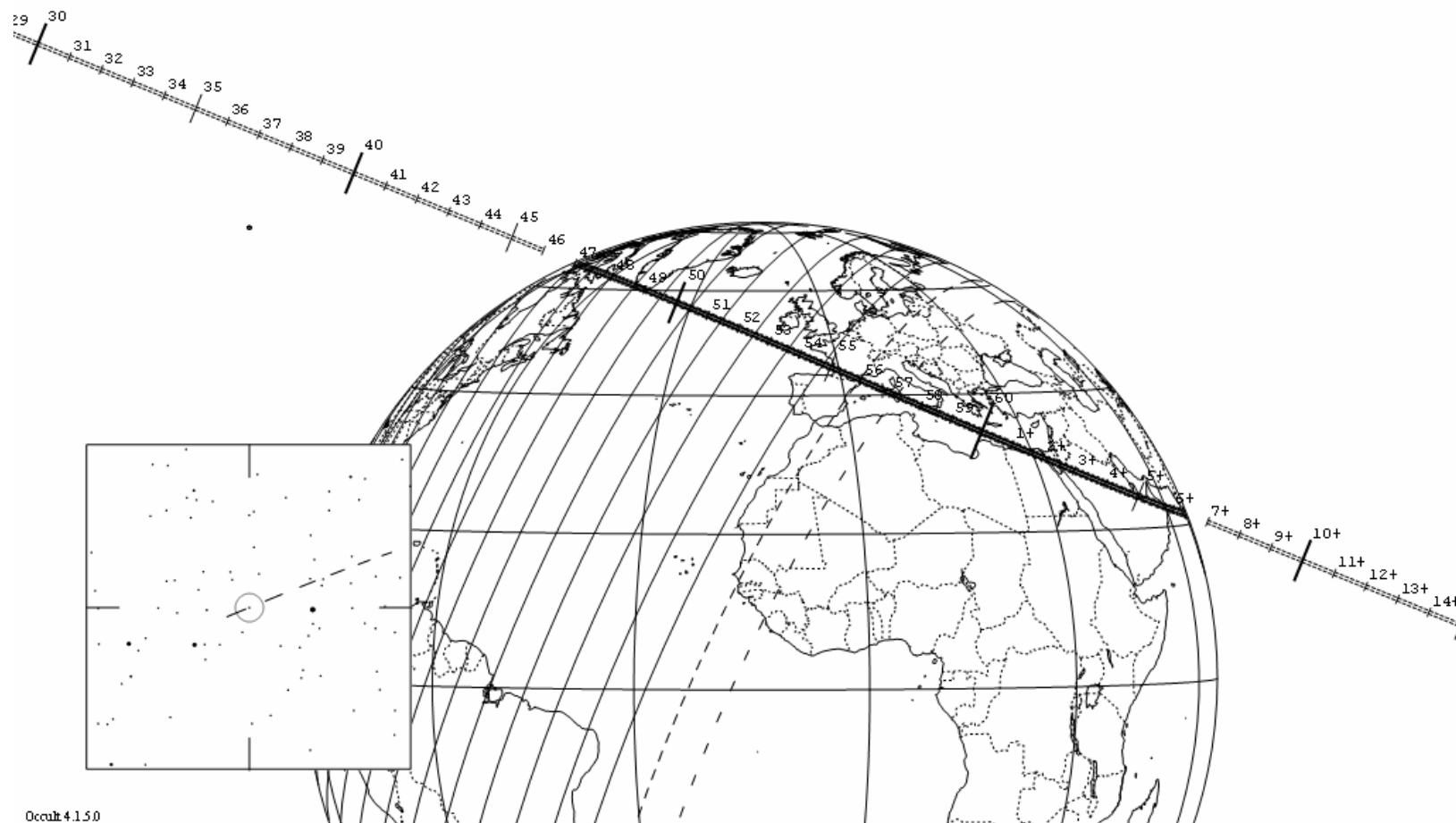
- Win-App OCCULT by Dave Herald (AU).
 - Steve Preston (USA).
 - Other contributors and (local) coordinators, preparing and selecting events, web presentation etc.
- Edwin Goffin (BE / EAON). Non-public software. PDF.
- Mike Kretlow (DE / IOTA-ES). Non-public software. WebApp.
- Andrey Plekhanov (RUS), LinOccult.

737 Arequipa occults 2UCAC 32208006 on 2015 Jun 25 from 19h 47m to 20h 6m UT

Star:
 Mv = 12.1
 RA = 13 15 31.0185 (J2000)
 Dec = 1 28 6.975
 [of Date: 13 16 19, 1 23 17]
 Prediction of 2015 May 18.0

Max Duration = 5.7 secs
 Mag Drop = 1.7
 Sun : Dist = 103 deg
 Moon: Dist = 8 deg
 : illum = 63 %
 E 0.017"x 0.015" in PA 91

Asteroid:
 Mag = 13.5
 Dia = 45km, 0.030"
 Parallax = 4.202"
 Hourly dRA = 1.167s
 dDec = -7.15"



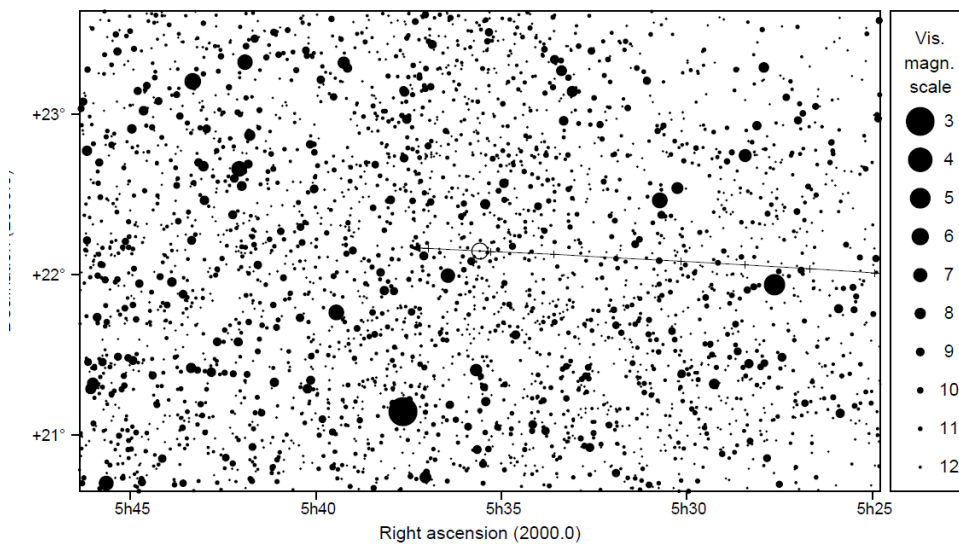
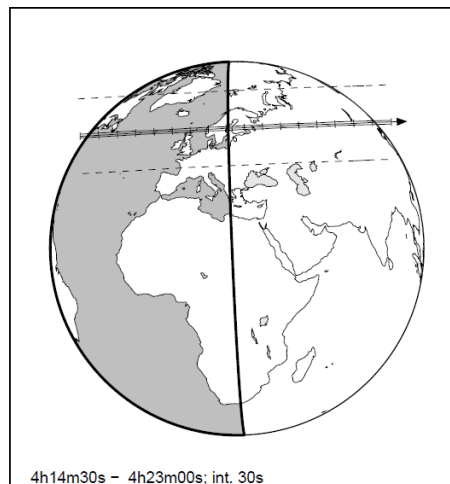
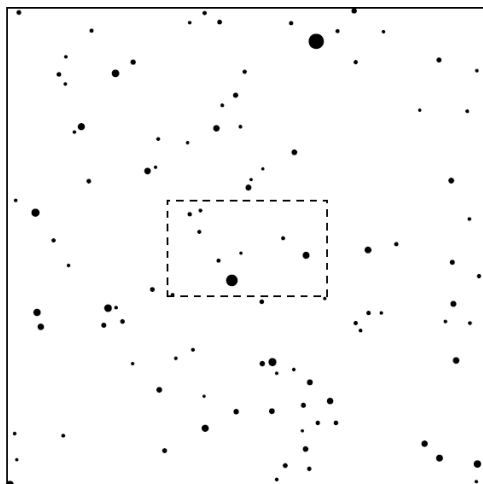
27 Euterpe & PPMX 5987291

2015 sep 16 4^h18.6^m U.T.

Planet: a = 2.35, e = 0.17
 V. mag. = 11.04 Diam. = 124.0 km = 0.10"
 μ = 58.60"/h π = 5.00" Ref. = EG2013

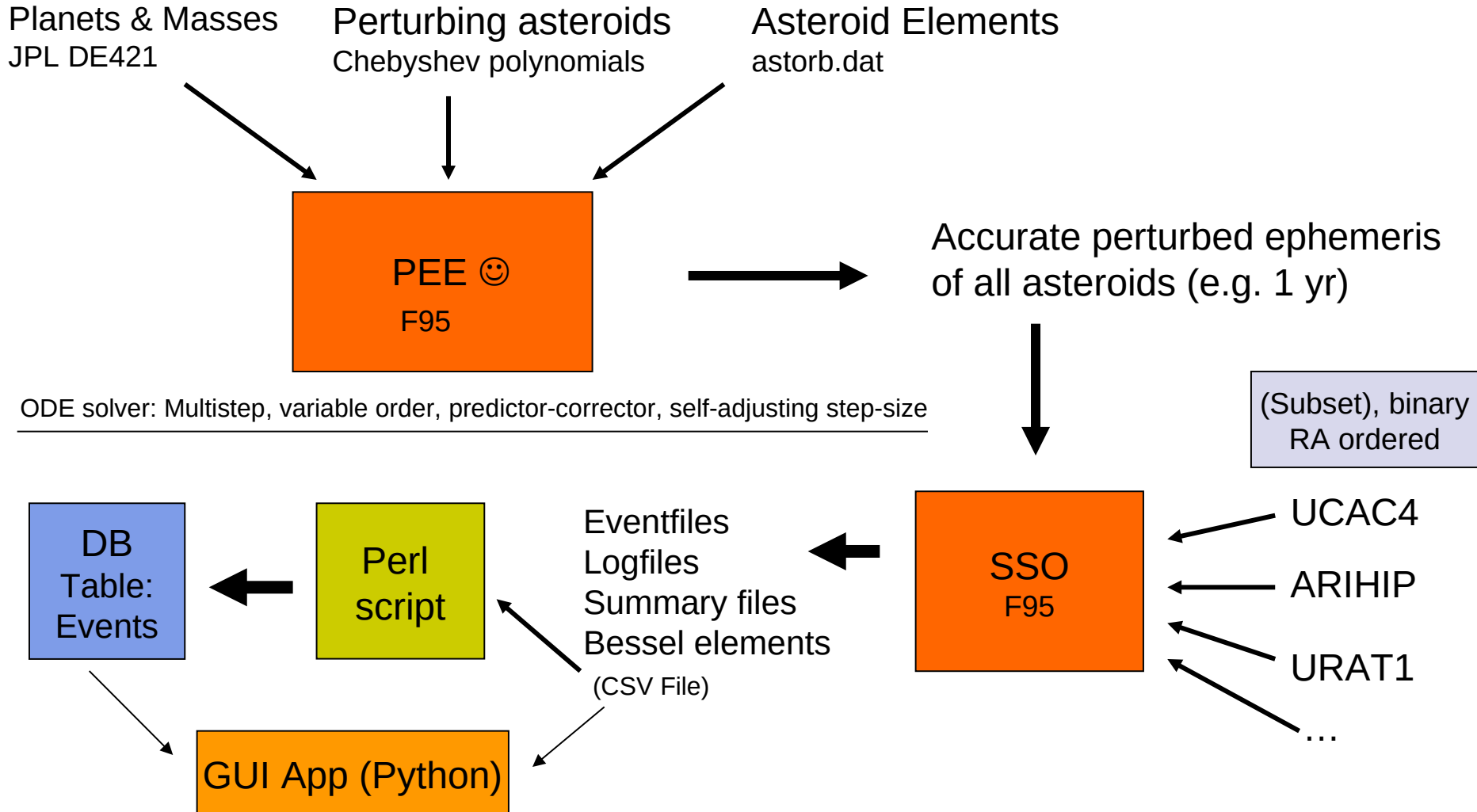
Star: Source cat. PPMX
 α = 5^h35^m34.640^s δ = +22°08'44.21"
 Vmag = 12.24 mag =

Δm = 0.3 Max. dur. = 6.0s Sun : 88° Moon : 120° , 7%

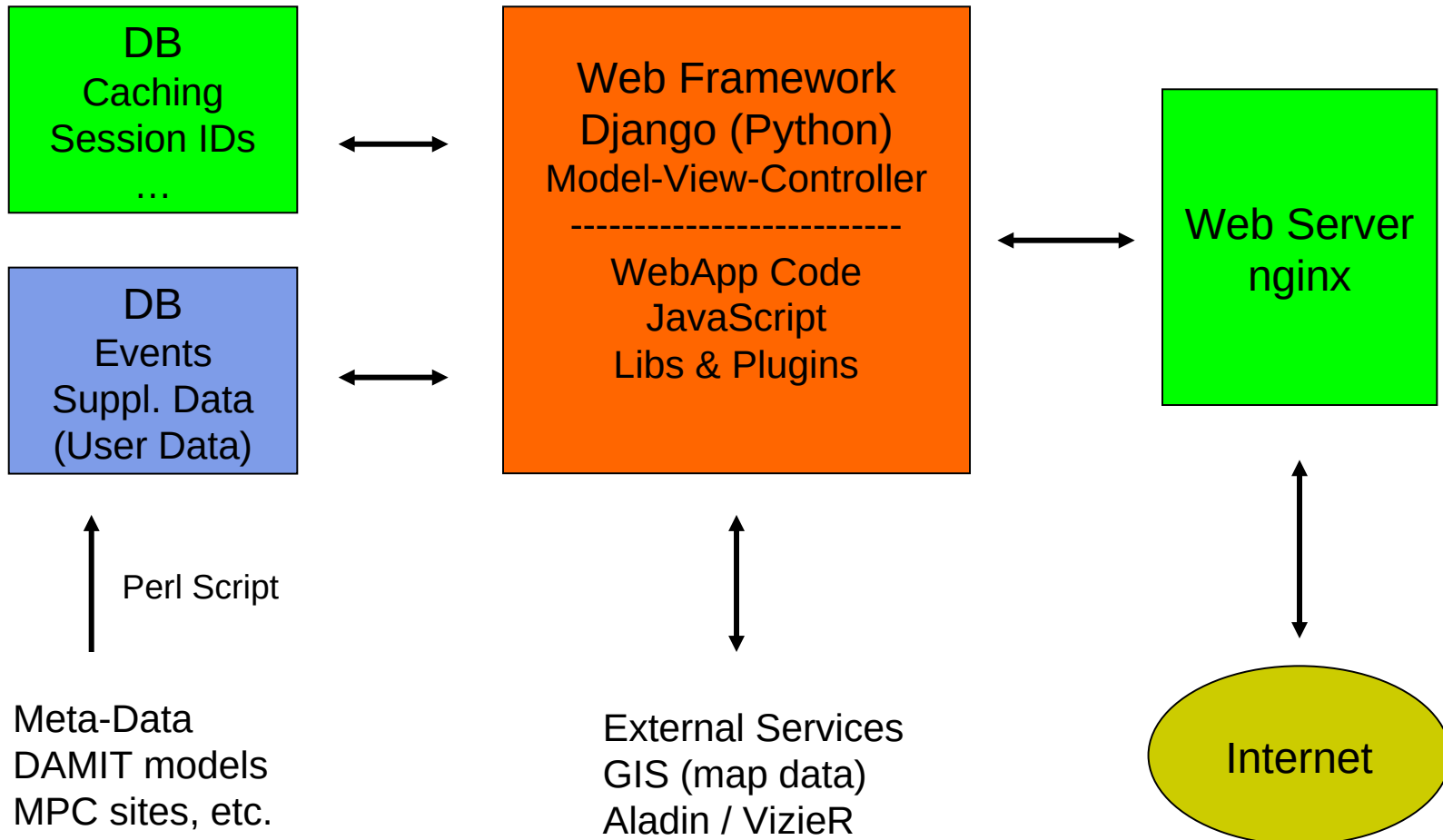
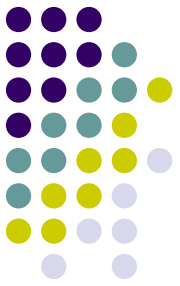


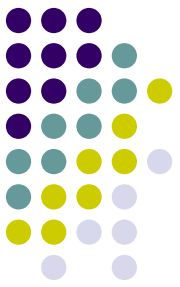


Workflow and tool chain (1)



Workflow (2) and WebApp



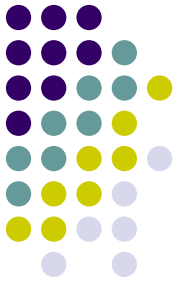


Constraints and properties

- Asteroids with mean diameter > 20 km
- Stars brighter 14 mag (SPM: 13 mag)
- Occ. duration (from mean diam.) ≥ 1 sec
- Elongation to Sun at least 30°

- DB contains ~ 145000 events for 2015
- 7 star catalogs : ARIHIP (includes FK6, HIP, TYC-2), CMC15, SPM4, PPMX, UCAC2, UCAC4 and URAT1

<http://astro.kretlow.de>



Mike Kretlow

 Search

[Start - About](#)

- [Solar System - Occultations](#)
- [Solar System - Dynamics](#)
- [Solar System - Observing](#)
- [Solar System - Statistics](#)
- [Occultation Predictions](#)
- [Occultation Reports](#)
- [Oldstuff \(Archive\)](#)
- [Publications](#)
- [Resources](#)
- [Software](#)
- [Notes](#)
- [News](#)

[Sitemap](#)

[Print view](#)

[Mailform](#)

Last update:
April 02, 2015, 15:08

[Login](#)

Start - About

Start - About

Welcome on my website ...

I present here informations, resources and results on different astronomical topics I am working on.

With changing priority I am interested in some kind of occultations and in dynamical calculations on asteroids and comets (orbits and identifications, mass determination, non-gravitational forces on comets and comet fragmentation dynamics).

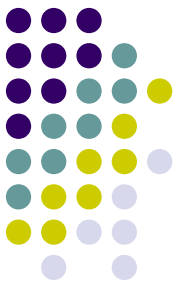
My few observational topics cover astrometry and photometry of asteroids as well as the observation of occultations by planets and their moons.

Clear skies !

Mike Kretlow
Hamburg, DE

[ResearchGate](#)





Future prospects

- Occult Watcher (OW) functionality
 - User, profiles and credentials management
- Replace astorb.dat by batch driven on-the-fly computed orbits including debiasing etc. => better orbits (ephemeris), full error propagation
- Combine occultation prediction DB (Bessel elements) with occultation reports (observations) DB => on-the-fly reduction and profile generation (ellipse fitting)
- Technical changes (code sharing etc.)