OV-GAFF

Géodésie Astronomie Fondamentale groupe France

Actions 2006-2007

Thématiques GAFF

PRODUITS	LLR	VLBI	SLR	GPS/ GALILEO	DORIS	SST-II
Repère extragalactique		***				
Rattachement au système solaire	***	*				
Rattachement à la Terre						
Précession-Nutation	**	***	*	*		
Temps Universel	*	***				
Rotation de la Terre						
Longueur du jour		***	*	**		
Mouvement du pôle		***	**	***	*	
Repère terrestre						
Homogénéité de la couverture mondiale		*	*	**	***	
Centre de masse (GM)			***	*	*	
Centre de figure		**				
Mouvement des plaques tectoniques		***	**	***	***	
Densification			*	***	**	
Orbitographie des satellites hauts						
Type : GPS/GALILEO			*	***		
Type LAGEOS, ETALON			***			
Orbitographie des satellites bas						
Type : TOPEX/Poséïdon, JASON-1			**	***	***	
Type : ERS, ENVISAT			**	***	***	
Type : CHAMP, GRACE			*	***		***
Champ de gravité						
Grandes longueurs d'onde (statique)			***	**	*	*
Moyennes et courtes longueurs d'onde (statique)			**	***	**	**
Variations temporelles			**	*		***

Le groupe OV-GAFF

- 2005 : début de projets pilotes OP/SYRTE et OCA/GEMINI
- Groupes représentés : OP/SYRTE, OCA/GEMINI, IMCCE, OASU, ESGT, EOST, IGN, IPGP
- Organisation nationale :
  - Liste de diffusion
  - Site web

OV-GAFF

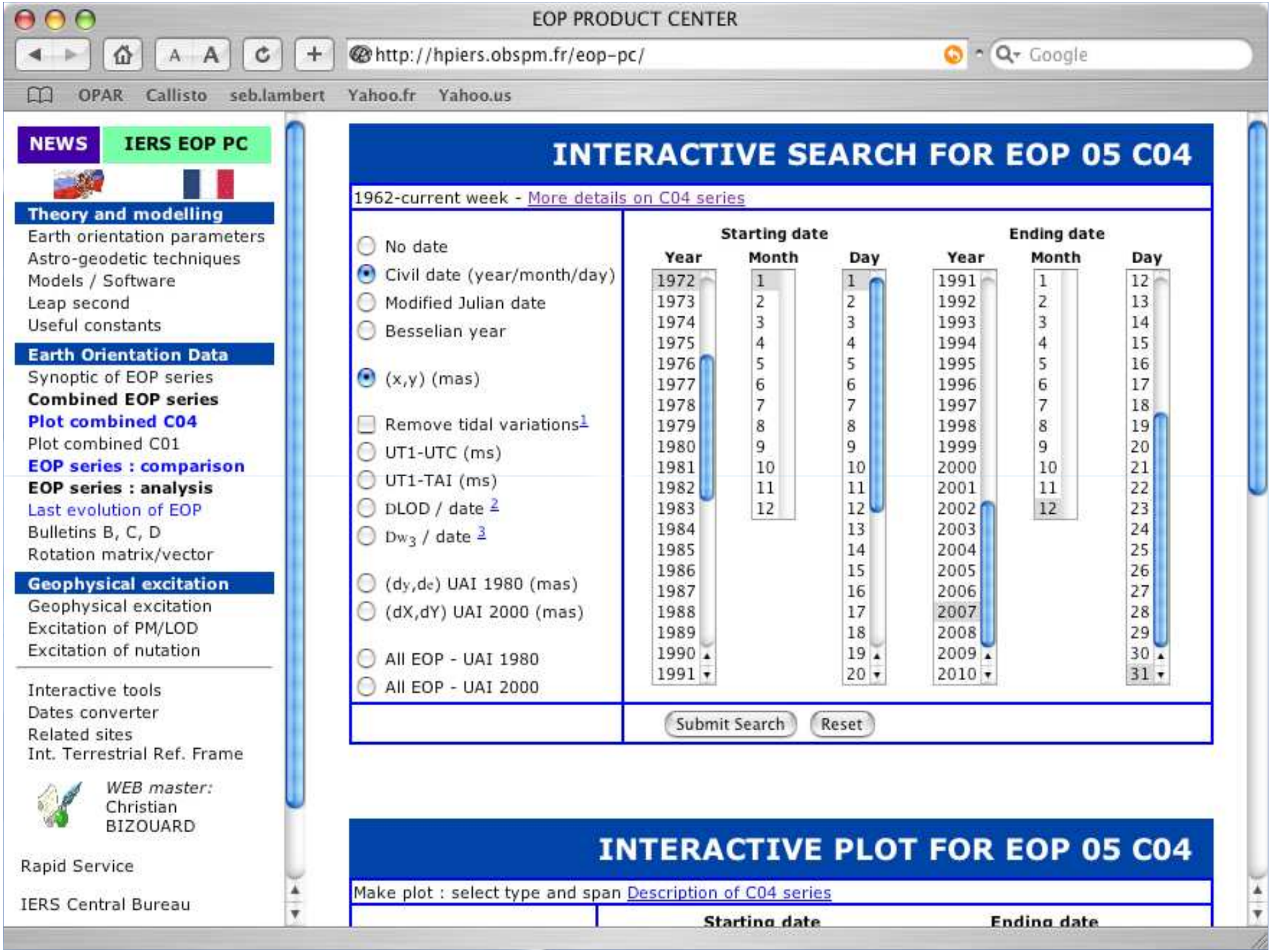
- A rajouter dans vos favoris…
  http://www.obs-azur.fr/heberges/pnaf/OV-GAFF/
- Liens vers les web services disponibles

Centres de produits IERS

- Centre des paramètres d'orientation terrestre (EOP, D. Gambis, C. Bizouard et al.)
  - Collecte, combinaison, dissémination des EOP
  - Référence internationale (C04)
- Centre du système céleste (ICRS, J. Souchay, C. Barache et al.)
  - Réalisation et maintenance de l'ICRS
  - ICRF, ICRF-Ext.1, ICRF-Ext.2
- Centre du système terrestre (ITRS, Z. Altamimi et al.)
  - Réalisation et maintenance de l'ITRS
  - ITRF xxxx, ITRF 2005

IERS EOP Center

- http://hpiers.obspm.fr/eop-pc/
- Sélection/comparaison/analyse interactives des séries d'EOP
- Plots
- Web service (Linux, Windows) : pour n'importe quelle date, on a
  - les EOP
  - la matrice d'orientation terrestre
- Mise au format VOTable en cours


EOP PRODUCT CENTER
http://hpiers.obspm.fr/eop-pc/
Google
OPAR
Callisto
seb.lambert
Yahoo.fr
Yahoo.us
NEWS
IERS EOP PC
Theory and modelling
Earth orientation parameters
Astro-geodetic techniques
Models / Software
Leap second
Useful constants
Earth Orientation Data
Synoptic of EOP series
Combined EOP series
Plot combined C04
Plot combined C01
EOP series : comparison
EOP series : analysis
Last evolution of EOP
Bulletins B, C, D
Rotation matrix/vector
Geophysical excitation
Geophysical excitation
Excitation of PM/LOD
Excitation of nutation
Interactive tools
Dates converter
Related sites
Int. Terrestrial Ref. Frame
WEB master:
Christian
BIZOUARD
Rapid Service
IERS Central Bureau
INTERACTIVE SEARCH FOR EOP 05 C04
1962-current week - More details on C04 series
No date
Civil date (year/month/day)
Modified Julian date
Besselian year
(x,y) (mas)
Remove tidal variations1
UT1-UTC (ms)
UT1-TAI (ms)
DLOD / date 2
Dw3 / date 3
(dy,dε) UAI 1980 (mas)
(dX,dY) UAI 2000 (mas)
All EOP - UAI 1980
All EOP - UAI 2000
Starting date
Year
Month
Day
Ending date
Year
Month
Day
Submit Search
Reset
INTERACTIVE PLOT FOR EOP 05 C04
Make plot : select type and span Description of C04 series
Starting date
Ending date

IERS ICRS Center

- http://hpiers.obspm.fr/icrs-pc/
- Liens directs depuis le site vers les catalogues ICRF au CDS (VOTable)
- Formulaire de consultation des caractéristiques astrométriques et physiques des radiosources complété
  - liens vers CDS
  - liens vers IVS OPAR

INDIVIDUAL SOURCE CONSULTATION

Your request : **0923+392**

IERS designation : 0923+392
Alias : 4C39.25
4C+39.25
B20923+39
B20923+392
DA267
OK340

ICRF designation : ICRF J092703.0+390220
ICRF category of source : Other

ICRF Structure index
at X band =
at S band =

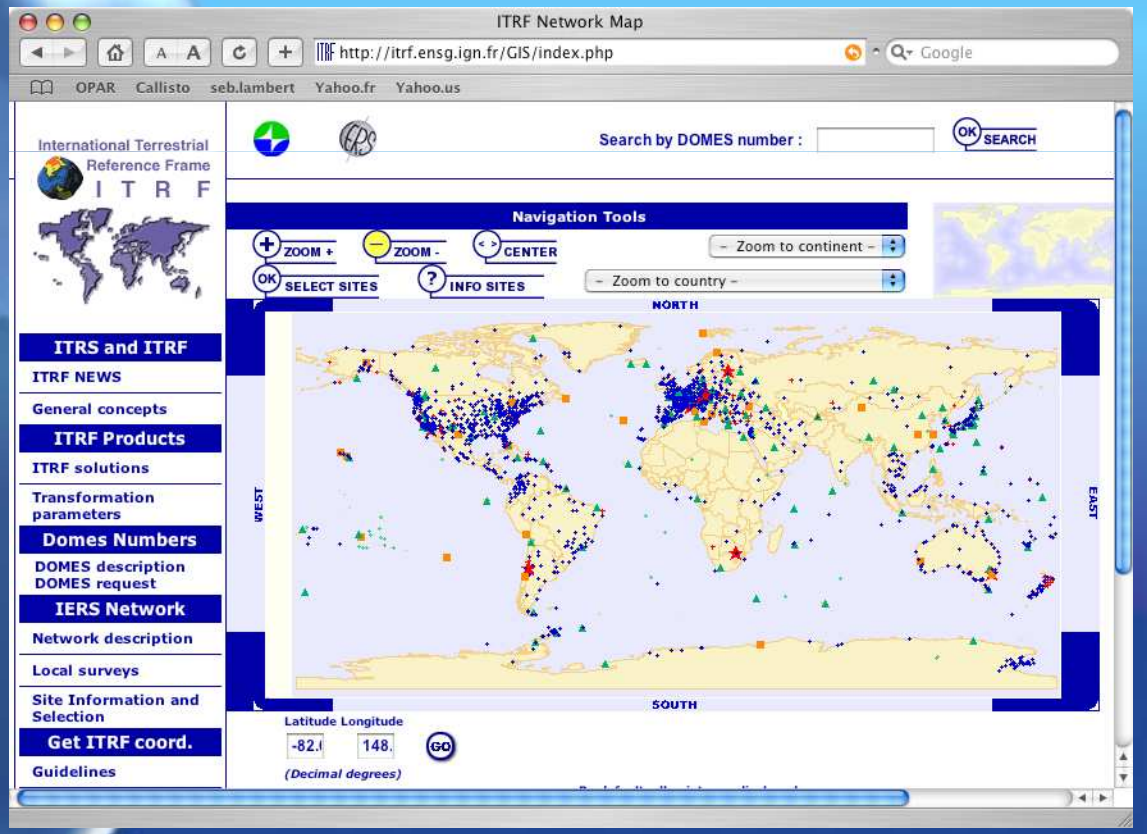
ICRF coordinates of source (ICRF ext 2)
alpha = 9h27m 3.013906s
delta = 39° 2'20.85196"

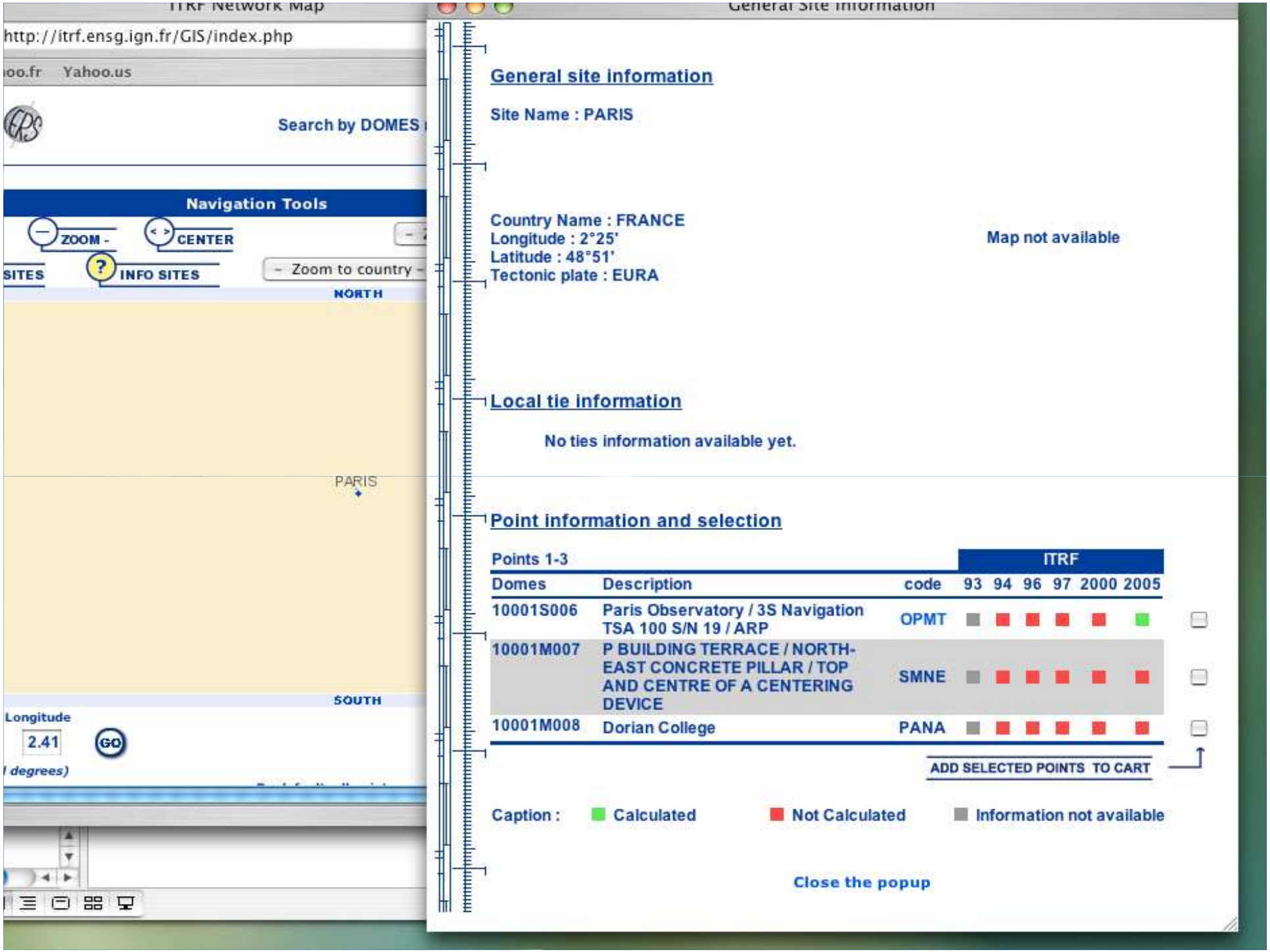
ICRF sigmas
sig alpha = 0.000042s
sig delta = 0.00047"

Physical characteristics of sources
Type of Object : Quasar

IERS ITRS Center

- http://itrf.ensg.ign.fr/
- Map server




ITRF Network Map
http://itrf.ensg.ign.fr/GIS/index.php
Yahoo.us
Search by DOMES
Navigation Tools
ZOOM -
CENTER
INFO SITES
SITES
- Zoom to country -
NORTH
PARIS
SOUTH
Longitude
2.41
GO
degrees)
General Site Information
General site information
Site Name : PARIS
Country Name : FRANCE
Longitude : 2°25'
Latitude : 48°51'
Tectonic plate : EURA
Map not available
Local tie information
No ties information available yet.
Point information and selection
Points 1-3
ITRF
Domes
Description
code
93 94 96 97 2000 2005
10001S006
Paris Observatory / 3S Navigation TSA 100 S/N 19 / ARP
OPMT
10001M007
P BUILDING TERRACE / NORTH-EAST CONCRETE PILLAR / TOP AND CENTRE OF A CENTERING DEVICE
SMNE
10001M008
Dorian College
PANA
ADD SELECTED POINTS TO CART
Caption :
Calculated
Not Calculated
Information not available
Close the popup

Centre d'analyse VLBI IVS OPAR

- Site web ouvert fin 2006
  - http://ivsopar.obspm.fr/
  - ajout des formats VOTable
- Publication des solutions trimestrielles VLBI
  - orientation terrestre
  - systèmes de référence associés
  - séries temporelles de coordonnées
    - de stations
    - de radiosources
- Tout au format VOTable

http://ivsopar.obspm.fr/

http://ivsopar.obspm.fr/

Google

OPAR Callisto seb.lambert Yahoo.fr Yahoo.us

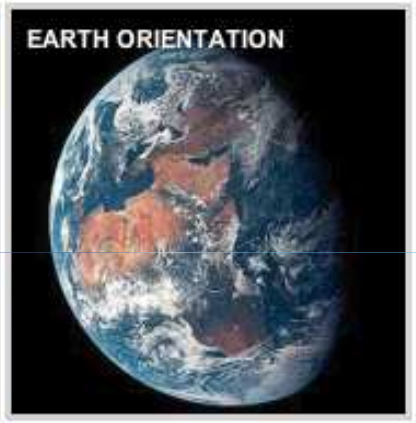
OPAR *The IVS Analysis Center at the Paris Observatory*

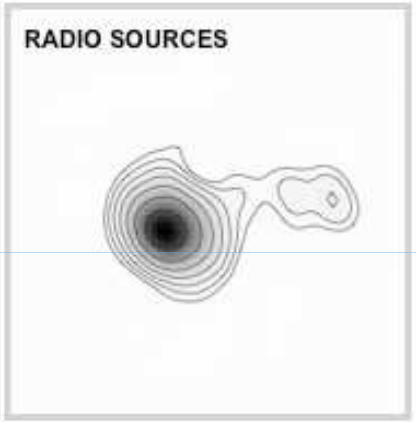
IVS OPAR
Home
About Us
News & Features

VLBI PRODUCTS
Stations
Earth Orientation
Radio Sources

VO CORNER
All Products
Archives

ABOUT VLBI
A PROPOS DU VLBI





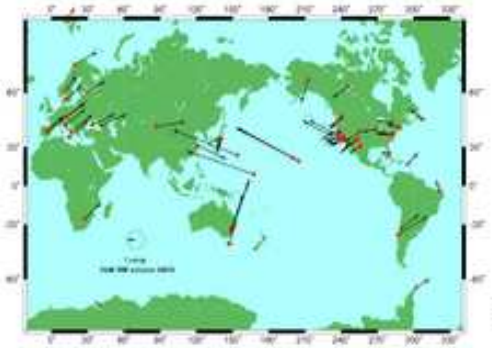


Plate motion / Dérive des continents

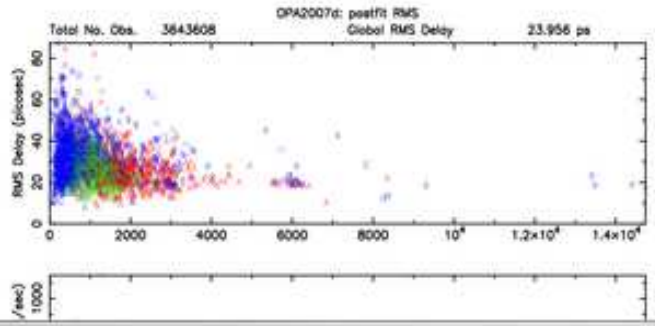
```
R2 rate    =      13.5    +-       6.4 microas/yr
R3 rate    =       0.9    +-       0.3 microsec/yr

EOP consistency wrt ICRF Ext.2 catalogue
Estimated on 231  sources used in more than  20 sessions
A1         =      38.6    +-       6.0 microas
A2         =      13.0    +-       6.1 microas
A3         =     -20.6    +-       4.6 microas
dz         =     -12.6    +-       4.8 microas
```

ASCII data files

- Technical description of the solution
- BATCH Solve control file
- List of experiments
- Postfit RMS delay and rate
- Global site positions and velocities -- VOTable
- Global source positions: Solve format -- IVS format -- VOTable
- Local source positions
- Earth orientation parameters: Solve format -- IVS format -- VOTable
- Correlation between EOP estimates

Plots: click to enlarge the pictures.

Postfit RMS delay and rate



IVS OPAR
Home
About Us
News & Features

VLBI PRODUCTS
Stations
Earth Orientation
Radio Sources

VO CORNER
All Products
Archives

ABOUT VLBI
A PROPOS DU VLBI

Arc Positions of Radio Sources

This section provides time series of coordinates of compact extragalactic radio sources (e.g., quasars, BL Lac, AGN, galaxies), monitored during multi-baseline geodetic VLBI sessions at 3.6-cm wavelength. The analysis strategy is based on baseline type solutions in which Earth rotation parameters are fixed to a priori values (IERS EOP 05 C 04), while station coordinates, UT1 rate and nutation offsets are estimated as arc parameters. Only sources observed in more than 10 sessions are shown below.

Get: Statistics file -- Description file -- All series in one file -- All sources with figures

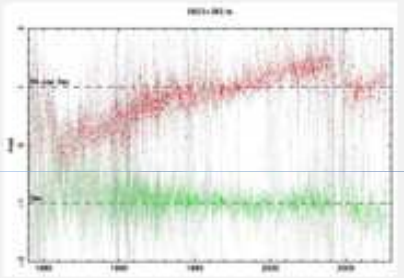
Or select below:

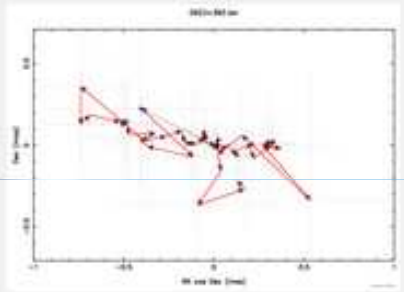
0003+380	0003-066	0007+106	0013-005	0014+813	0016+731	0019+058	0046+316	0048-097	0055+300
0059+581	0104-408	0106+013	0110+495	0111+021	0119+041	0119+115	0133+476	0146+056	0153+744
0201+113	0202+149	0202+319	0202-172	0208-512	0212+735	0215+015	0221+067	0229+131	0234+285
0235+164	0238-084	0239+108	0256+075	0300+470	0305+039	0306+102	0308-611	0316+413	0317+188
0319+121	0322+222	0333+321	0336-019	0338-214	0355+508	0400+258	0402-362	0405-385	0406+121
0420-014	0422+004	0426+273	0430+052	0430+289	0434-188	0438-436	0440+345	0446+112	0454+844
0454-234	0457+024	0458-020	0507+179	0521-365	0528+134	0530-727	0536+145	0537-441	0544+273
0552+398	0554+242	0556+238	0601+245	0602+673	0607-157	0611+131	0615+820	0620+389	0636+680
0637-752	0642+449	0656+082	0657+172	0707+476	0716+714	0718+792	0722+145	0723-008	0727-115
0735+178	0736+017	0738+313	0742+103	0743+259	0745+241	0748+126	0749+540	0804+499	0805+046
0805+410	0808+019	0814+425	0818-128	0820+560	0821+394	0821+621	0823+033	0827+243	0829+046
0836+710	0839+187	0851+202	0859+470	0917+624	0919-260	0920+390	0920-397	0923+392	0949+354
0951+693	0952+179	0953+254	0954+658	0955+476	1004+141	1014+615	1020+400	1022+194	1023+131
1030+074	1030+415	1034-293	1038+064	1038+528	1039+811	1044+719	1053+704	1053+815	1055+018
1057-797	1101+384	1101-536	1104-445	1116+128	1123+264	1124-186	1128+385	1130+009	1142+198
1144+402	1144-379	1145-071	1150+812	1156+295	1219+044	1219+285	1221+809	1222+037	1222+131
1226+023	1226+373	1228+126	1236+077	1237-101	1243-072	1244-255	1252+119	1253-055	1255-316
1257+145	1300+580	1302-102	1307+121	1308+326	1308+328	1313-333	1334-127	1342+662	1342+663
1351-018	1352-104	1354+195	1354-152	1357+769	1402+044	1404+286	1406-076	1413+135	1417+385

http://ivsopar.obspm.fr/radiosources/search.php?source=0923%2B392
http://ivsopar.obspm.fr/radiosources/search.php?source=0923%2E
Google
OPAR Callisto seb.lambert Yahoo.fr Yahoo.us

0923+392

Data per session -- VOTable -- Data at 0.5-yr -- SIMBAD





IVS OPAR
Home
About Us
News & Features

VLBI PRODUCTS
Stations
Earth Orientation
Radio Sources

VO CORNER
All Products
Archives

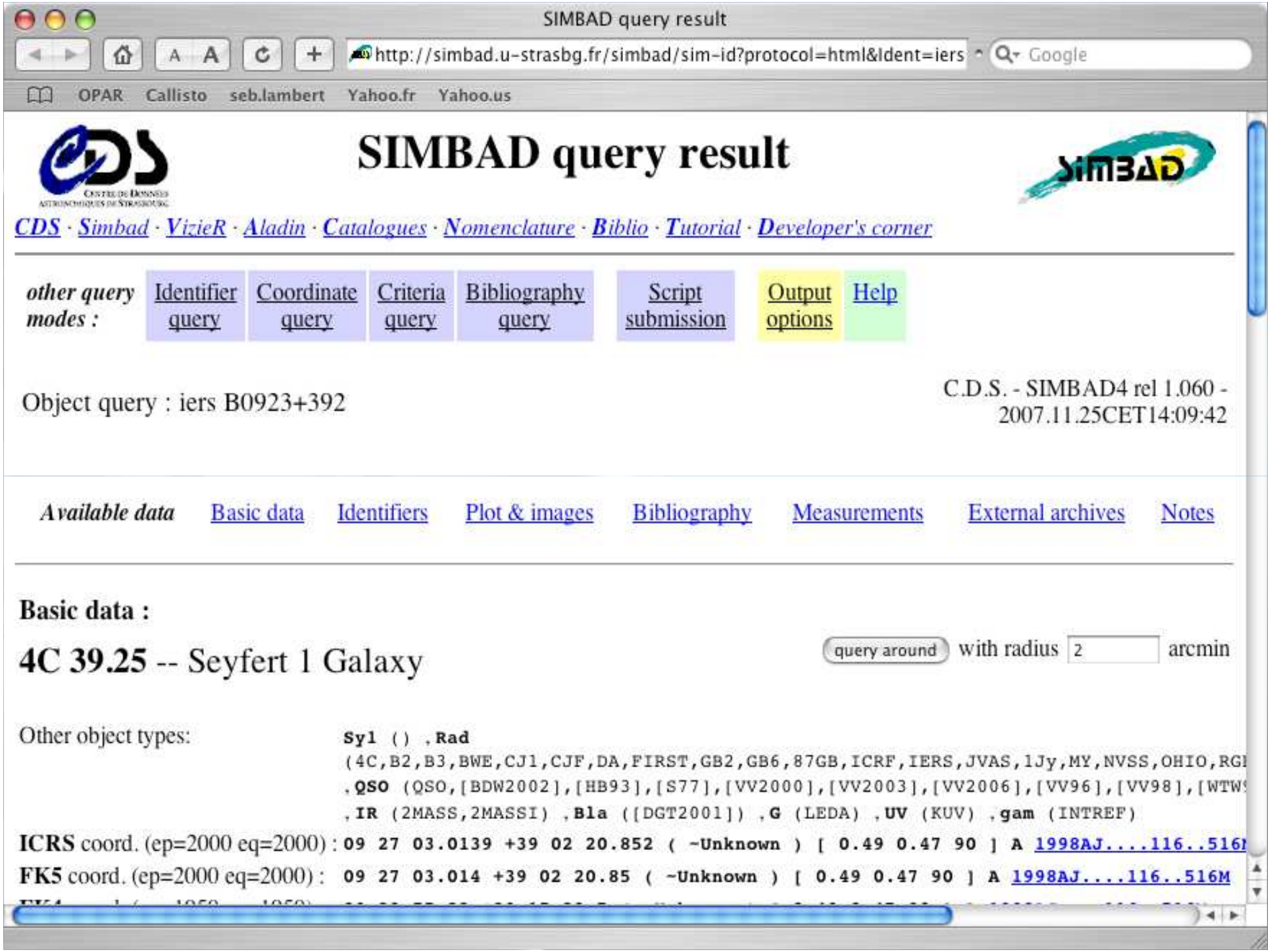
ABOUT VLBI
A PROPOS DU VLBI

Time series statistics

Number of sessions: 2731
First / mid / end dates: 1984.0 / 1994.4 / 2007.7

	R.A.	Dec.
Average (°)	141.762558027630	39.039125518543
Slope (mas/yr)*	0.024	-0.012
Detrended wrms (mas)*	0.291	0.230

* R.A. means R.A.cos(Dec.)


SIMBAD query result
http://simbad.u-strasbg.fr/simbad/sim-id?protocol=html&Ident=iers
Google
OPAR Callisto seb.lambert Yahoo.fr Yahoo.us
SIMBAD query result
CDS · Simbad · VizieR · Aladin · Catalogues · Nomenclature · Biblio · Tutorial · Developer's corner
other query modes :
Identifier query
Coordinate query
Criteria query
Bibliography query
Script submission
Output options
Help
Object query : iers B0923+392
C.D.S. - SIMBAD4 rel 1.060 - 2007.11.25CET14:09:42
Available data
Basic data
Identifiers
Plot & images
Bibliography
Measurements
External archives
Notes
Basic data :
4C 39.25 -- Seyfert 1 Galaxy
query around
with radius
2
arcmin
Other object types:
Syl () ,Rad
(4C,B2,B3,BWE,CJ1,CJF,DA,FIRST,GB2,GB6,87GB,ICRF,IERS,JVAS,1Jy,MY,NVSS,OHIO,RGI
,QSO (QSO,[BDW2002],[HB93],[S77],[VV2000],[VV2003],[VV2006],[VV96],[VV98],[WTW
,IR (2MASS,2MASSI) ,Bla ([DGT2001]) ,G (LEDA) ,UV (KUV) ,gam (INTREF)
ICRS coord. (ep=2000 eq=2000) : 09 27 03.0139 +39 02 20.852 (~Unknown) [0.49 0.47 90] A 1998AJ....116..516
FK5 coord. (ep=2000 eq=2000) : 09 27 03.014 +39 02 20.85 (~Unknown) [0.49 0.47 90] A 1998AJ....116..516M

IVS OPAR
Home
About Us
News & Features

VLBI PRODUCTS
Stations
Earth Orientation
Radio Sources

VO CORNER
All Products
Archives

ABOUT VLBI
A PROPOS DU VLBI

Virtual Observatory Products

Some OPAR products are available in the VOTable format as defined by the International Virtual Observatory Alliance (IVOA). You can either follow the VOTable links on the relevant pages or select one product below that is extracted from the current VLBI solution. For easy visualization/manipulation of the series, use, e.g., the VO-designed TopCat or the VOPlot software packages.

Earth orientation and global reference systems

- Earth orientation parameters
- Radio source catalogue, with coordinates
- Station catalogue, with coordinates and velocities

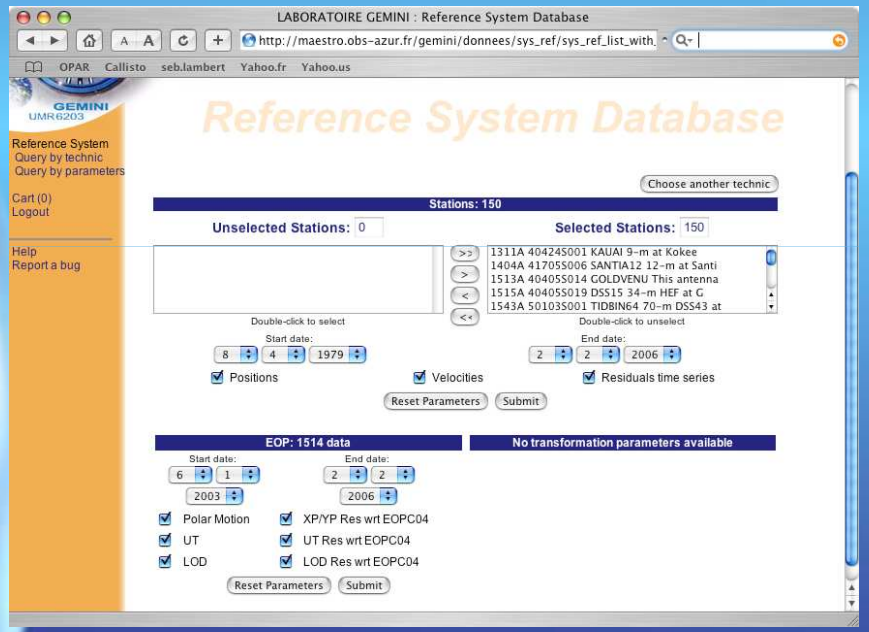
Station coordinate time series

AZORES	BADARY	BR-VLBA	BREST	CARNUSTY	CRIMEA	CTVASBAY	CTVASTJ
DSS15	DSS45	DSS65	FD-VLBA	FORTLEZA	FORTORDS	GGAO7108	GILCREEK
GOLDVENU	GORF7102	GRASSE	HARTRAO	HATCREEK	HAYSTACK	HN-VLBA	HOBART26
HOFN	HOHENFRG	HOHNBERG	HRAS 085	KARLBURG	KASHIM11	KASHIM34	KASHIMA
KAUAI	KODIAK	KOGANEI	KOKEE	KP-VLBA	KWAJAL26	LA-VLBA	MARCUS
MARPOINT	MATERA	MEDICINA	METSAHOV	METSHOVI	MIAMI20	MIURA	MIZNAO10
MK-VLBA	MOJAVE12	MON PEAK	NL-VLBA	NOBEY 6M	NOTOX	NOTO	NRAO20
NRAO85 1	NRAO85 3	NRAO 140	NYALES20	OHIGGINS	ONSALA60	OV-VLBA	OVRO 130
PARKES	PENTICTN	PIETOWN	PLATTVIL	PRESIDIO	PT REYES	QUINCY	RICHMOND
SANTIA12	SC-VLBA	SESHAN25	SEST	SHANGHAI	SNDPOINT	SOURDOGH	SVETLOE
SYOWA	TATEYAMA	TIDBIN64	TIGOCONC	TIGOWTZL	TOULOUSE	TROMSONO	TRYSILNO
TSUKUB32	URUMQI	USSURISK	VICTORIA	VLA-N8	VLBA85 3	VNDNBERG	WESTFORD

Reference System DataBase

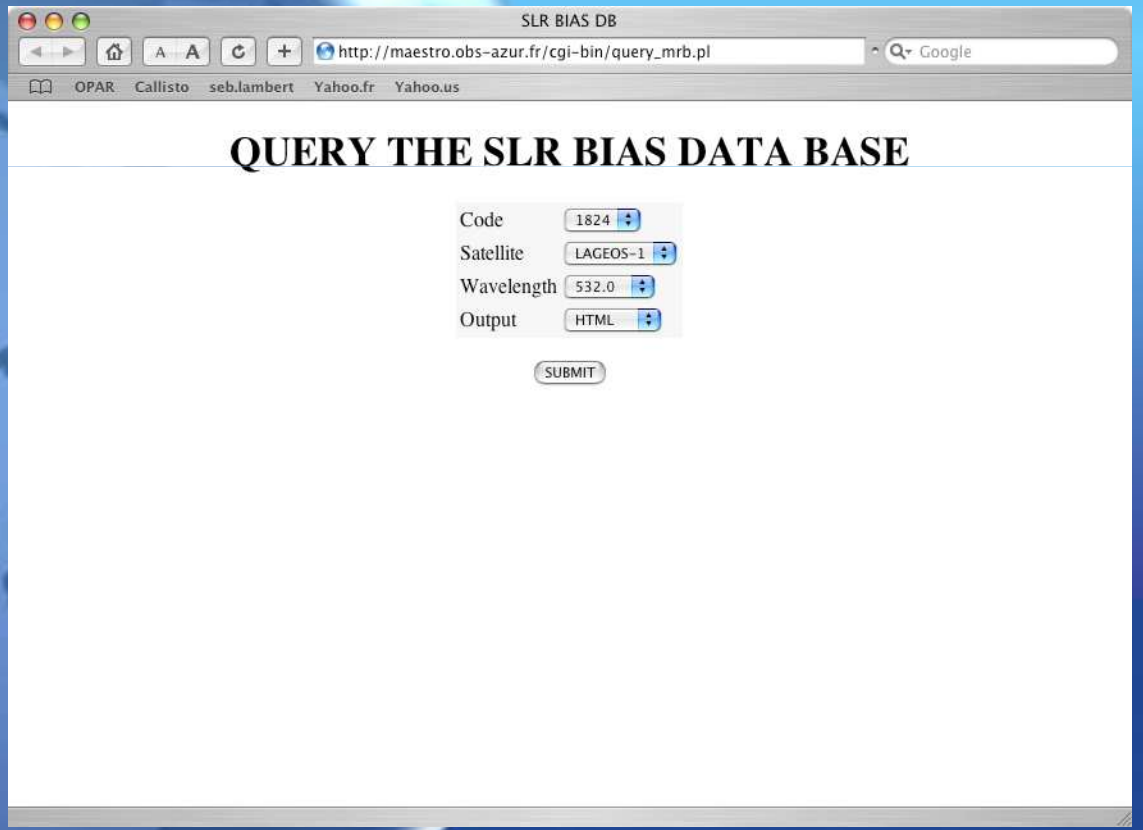
- Outil web pour
  - consultation
  - homogénéisation
  - comparaison

  des séries d'EOP multitechniques
- Sortie VOTable



BDD biais des stations de télémétrie laser

- Interface we avec sortie VOTable



Dans le futur…

- Améliorer la couche VO
  - définition des UCD
  - utilisation du datamodel STC dans les VOTable
  - convertir tout en VOTable
  - création d'autres web services (nusoap ou soap::lite)
- Création d'une BDD pour le centre d'analyse ILRS français (OCA)
- Rendre accessible certains des codes de calcul d'orbite via web service
- Analyser l'intérêt des WorkFlows dans le cadre de nos outils de calcul