



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						
<i>Précession-Nutation</i>	**	***	*	*		
<i>Temps Universel</i>	*	***				
Rotation de la Terre						
<i>Longueur du jour</i>		***	*	**		
<i>Mouvement du pôle</i>		***	**	***	*	
Repère terrestre						
<i>Homogénéité de la couverture mondiale</i>		*	*	**	***	
<i>Centre de masse (GM)</i>			***	*	*	
<i>Centre de figure</i>		**				
<i>Mouvement des plaques tectoniques</i>		***	**	***	***	
<i>Densification</i>			*	***	**	
Orbitographie des satellites hauts						
<i>Type : GPS/GALILEO</i>			*	***		
<i>Type LAGEOS, ETALON</i>			***			
Orbitographie des satellites bas						
<i>Type : TOPEX/Poséidon, JASON-1</i>			**	***	***	
<i>Type : ERS, ENVISAT</i>			**	***	***	
<i>Type : CHAMP, GRACE</i>			*	***		***
Champ de gravité						
<i>Grandes longueurs d'onde (statique)</i>			***	**	*	*
<i>Moyennes et courtes longueurs d'onde (statique)</i>			**	***	**	**
<i>Variations temporelles</i>			**	*		***

Le groupe OV-GAFF

- 2005 : début des 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

Webserices autour de OV-GAFF

http://www.obs-azur.fr/heberges/pnaf/OV-GAFF/Webservices/webse

OPAR Callisto seb.lambert Yahoo.fr Yahoo.us

Groupe de travail OV-GAFF

INSU CNES CENTRE NATIONAL D'ETUDES SPATIALES

Dans le site, vous êtes là : [Accueil portail](#) > [Accueil OV-GAFF](#) > [Webservices](#)

FONCTIONNEMENT

- Les acteurs
- Les actions
- Le financement

OBJECTIFS SCIENTIFIQUES

- Recherche d'exactitude
- Combinaisons de données
- Interfaces disciplinaires
- Navigation interplanétaire

ASPECTS INTERNATIONAUX

- Organisation
- Implications
- Liens utiles

PAGES DE TRAVAIL DE L'ASOV

- Pages OV-GAFF
- Informations générales
- Informations techniques
- Nos documents de travail

SERVICES EN LIGNE

- Par type de donnée
- Par groupe
- Par type de produit

Webservices classés par groupes de recherche

Ici on pourrait mettre un logo et ici des photos ?

Observatoire de la Côte d'Azur, Equipe "Géodésie et Mécanique Céleste"

L'équipe GMC de l'OCA fournit :

- Les [séries temporelles de position de stations d'observations, et de paramètres d'orientation de la Terre](#), venant de ses propres valorisations de données, et celles d'autres groupes liés aux services internationaux (ILRS, IGS, IVS).
- Les [biais des stations laser](#), établis par l'équipe, entre deux évolutions technologiques successives.
- Centre français d'analyse de l'ILRS.

Observatoire de Paris, Département "SYstèmes de Référence Terre et Espace"

- [Séries temporelles d'EOP](#) de l'IERS
- [Paramètres de rotation de la Terre](#), à partir d'une date
- [ICRF et radio-sources extragalactiques](#)

There was one error opening the page. For more information, choose Activity from the Window menu.

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

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,dc) UAI 1980 (mas)
 (dX,dY) UAI 2000 (mas)

 All EOP - UAI 1980
 All EOP - UAI 2000

Starting date

Year	Month	Day
1972	1	1
1973	2	2
1974	3	3
1975	4	4
1976	5	5
1977	6	6
1978	7	7
1979	8	8
1980	9	9
1981	10	10
1982	11	11
1983	12	12
1984		13
1985		14
1986		15
1987		16
1988		17
1989		18
1990		19
1991		20

Ending date

Year	Month	Day
1991	1	12
1992	2	13
1993	3	14
1994	4	15
1995	5	16
1996	6	17
1997	7	18
1998	8	19
1999	9	20
2000	10	21
2001	11	22
2002	12	23
2003		24
2004		25
2005		26
2006		27
2007		28
2008		29
2009		30
2010		31

Submit Search

Reset

INTERACTIVE PLOT FOR EOP 05 C04

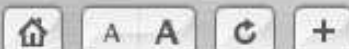
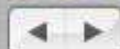
Make plot : select type and span [Description of C04 series](#)

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

**ICRS-PC**

Role of the ICRS-PC
Team

ICRS

The ICRS
Definition of ICRS axes
Maintenance of the ICRS

ICRF

The ICRF
The ICRF-Ext.1
The ICRF-Ext.2

Information on radiosources
Radiosource structures

CRF analysis

Compared CRF
Time stability of ICRF
VO corner

Links

[References](#)
[Site map](#)
[Contact the webm@ster](mailto:webm@ster)

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

The screenshot displays the ITRF Network Map web application. The browser window title is "ITRF Network Map" and the address bar shows "http://itrf.ensg.ign.fr/GIS/index.php". The page features a search bar for "DOMES number" and a "SEARCH" button. Below the search bar is a "Navigation Tools" section with buttons for "ZOOM +", "ZOOM -", "CENTER", "SELECT SITES", and "INFO SITES", along with dropdown menus for "Zoom to continent" and "Zoom to country". The main content area is a world map showing the ITRF network of sites, represented by various colored symbols (triangles, squares, circles) across the globe. The map is labeled with "NORTH", "SOUTH", "WEST", and "EAST". At the bottom of the map, there is a "Latitude Longitude" input field with "82.1" and "148." entered, and a "GO" button. The left sidebar contains a navigation menu with the following items: "ITRS and ITRF", "ITRF NEWS", "General concepts", "ITRF Products", "ITRF solutions", "Transformation parameters", "Domes Numbers", "DOMES description", "DOMES request", "IERS Network", "Network description", "Local surveys", "Site Information and Selection", "Get ITRF coord.", and "Guidelines".

ITRF Network Map

http://itrf.ensg.ign.fr/GIS/index.php

oo.fr Yahoo.us

Search by DOMES

Navigation Tools

ZOOM - CENTER

SITES INFO SITES - Zoom to country -

NORTH

PARIS

SOUTH

Longitude 2.41 (degrees) GO

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	Domes	Description	code	ITRF						
				93	94	96	97	2000	2005	
	10001S006	Paris Observatory / 3S Navigation TSA 100 S/N 19 / ARP	OPMT	■	■	■	■	■	■	<input type="checkbox"/>
	10001M007	P BUILDING TERRACE / NORTH- EAST CONCRETE PILLAR / TOP AND CENTRE OF A CENTERING DEVICE	SMNE	■	■	■	■	■	■	<input type="checkbox"/>
	10001M008	Dorian College	PANA	■	■	■	■	■	■	<input type="checkbox"/>

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



OPAR

The IVS Analysis Center at the Paris Observatory

IVS OPAR

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- News & Features

VLBI PRODUCTS

- Stations
- Earth Orientation
- Radio Sources

VO CORNER

- All Products
- Archives

ABOUT VLBI

A PROPOS DU VLBI

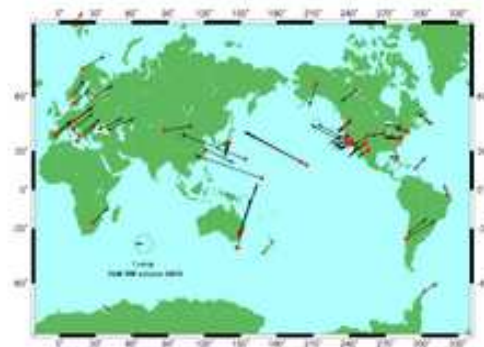
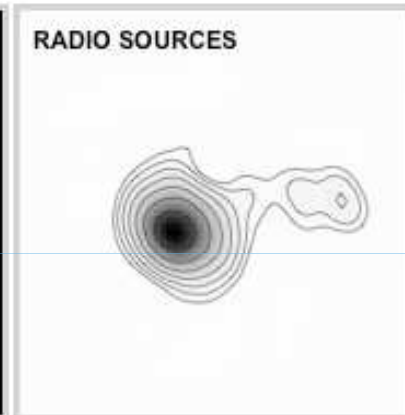
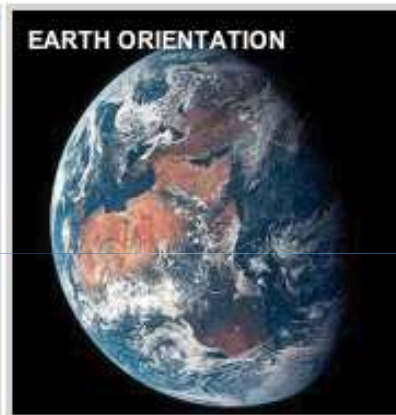


Plate motion / Dérive des continents



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

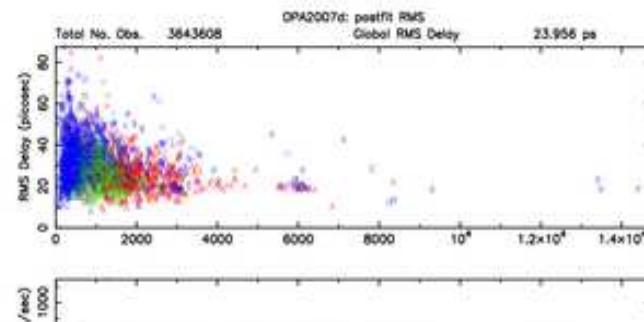
A1	=	38.6	+-	6.0 microas
A2	=	13.0	+-	6.1 microas
A3	=	-20.6	+-	4.6 microas
dz	=	-12.6	+-	4.8 microas

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





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.](#)

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ABOUT VLBI

A PROPOS DU VLBI

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



0923+392

[Data per session](#) -- [VOTable](#) -- [Data at 0.5-yr](#) -- [SIMBAD](#)

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VLBI PRODUCTS

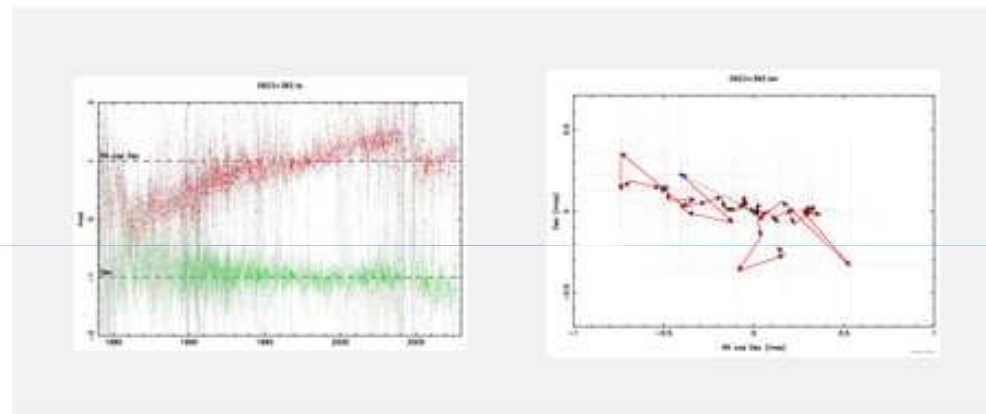
- Stations
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ABOUT VLBI

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



[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 arcmin

Other object types:

Sy1 () , **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..516M](#)



FK5 coord. (ep=2000 eq=2000) : 09 27 03.014 +39 02 20.85 (-Unknown) [0.49 0.47 90] A [1998AJ....116..516M](#)

FK5 coord. (ep=1950 eq=1950) : 09 27 03.014 +39 02 20.85 (-Unknown) [0.49 0.47 90] A [1998AJ....116..516M](#)

http://ivsopar.obspm.fr/vo/index.php

http://ivsopar.obspm.fr/vo/index.php

OPAR Callisto seb.lambert Yahoo.fr Yahoo.us

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	DSS85	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	METSALHOV	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

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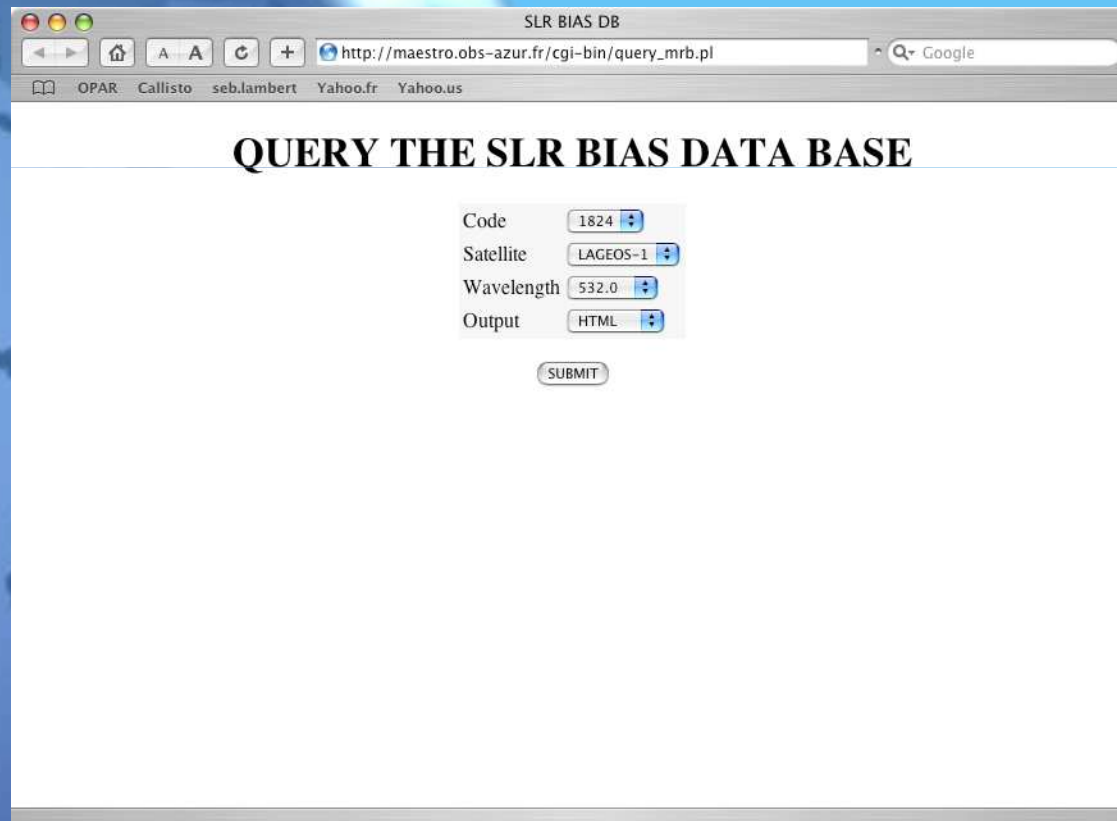
Reference System DataBase

- Outil web pour
 - consultation
 - homogénéisation
 - comparaisondes séries d'EOP multitechniques
- Sortie VOTable

The screenshot shows a web browser window titled "LABORATOIRE GEMINI : Reference System Database". The address bar contains the URL "http://maestro.obs-azur.fr/gemini/donnees/sys_ref/sys_ref_list_with...". The page features a navigation menu on the left with options like "Reference System", "Query by technic", "Query by parameters", "Cart (0)", and "Logout". The main content area is titled "Reference System Database" and includes a "Choose another technic" button. Below this, it displays "Stations: 150" and a list of "Selected Stations" with details such as "1311A 404245001 KAUAI 9-m at Kokee". The interface also includes date selection fields for "Start date" (set to 1979) and "End date" (set to 2006), and checkboxes for "Positions", "Velocities", and "Residuals time series". A "Reset Parameters" and "Submit" button are present. At the bottom, there are sections for "EOP: 1514 data" and "No transformation parameters available", with further date and parameter selection options.

BDD biais des stations de télémétrie laser

- Interface web avec sortie VOTable



The screenshot shows a web browser window titled "SLR BIAS DB". The address bar contains the URL "http://maestro.obs-azur.fr/cgi-bin/query_mrb.pl". The browser's bookmark bar shows "OPAR", "Callisto", "seb.lambert", "Yahoo.fr", and "Yahoo.us". The main content area features the heading "QUERY THE SLR BIAS DATA BASE" and a query form with the following fields:

Code	1824
Satellite	LAGEOS-1
Wavelength	532.0
Output	HTML

A "SUBMIT" button is located below the form fields.

Dans le futur...

- Améliorer la couche API
 - 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