Dissemination of ICRS products and information on ICRF radio sources

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Abstract. As agreed in the ICRS-PC terms of reference, the two participating groups (OP, USNO) have set up web sites and the necessary cross access to disseminate results.

1 Organisation of the Paris site

The structure of Paris web site is similar to the Earth Orientation Center one. It was reorganised starting from existing CRF section of IERS Central Bureau. It is divided in four sections (Fig. 1).

- ICRS-PC: contains general information on the ICRS Center.
- ICRS: gives informations on the system
  - definition of ICRS (equator and pole),
  - relation with the preceding conventional celestial reference frame FK5,
  - description of the organisation of the frame maintenance.

  The necessary links with other pages like VLBI techniques or IVS (International VLBI Service for geodesy and astronomy) are provided. References to articles are given at the bottom of the pages.
- ICRF: is devoted to the sources that materialize the frame.
  - ICRF elaborated in 1995 and details on the VLBI analyses used.
  - Extension of ICRF, ICRF-Ext.1 elaborated in 1999 and ICRF-EXT.2 in 2004. Coordinates in ICRS of 109 newly observed sources are provided.
  - For the next realization of ICRF (ICRF2), results of studies on the time stability of source coordinates are made available. Plots of yearly positions (postscript and gif images) and numerical data are proposed for 410 sources.
  - Information on Radio source structure is also necessary to monitor the sources. Structure index data are available through a link to Bordeaux Observatory.
  - An interactive access to all the information available in the various files for a selected source (alias name, ICRF coordinates and category, physical characteristics...) is provided.
- CRF analyses: gives the results of the comparisons between celestial reference frames submited to the ICRS-PC and the ICRF. References and explanations on the method of comparison are described.

In addition, informations on related sites and a contact person is given.

2 Organisation of the USNO site

At USNO the information relative to the ICRS-PC activities is presented in two pages:

Fig. 1. ICRS-PC web page

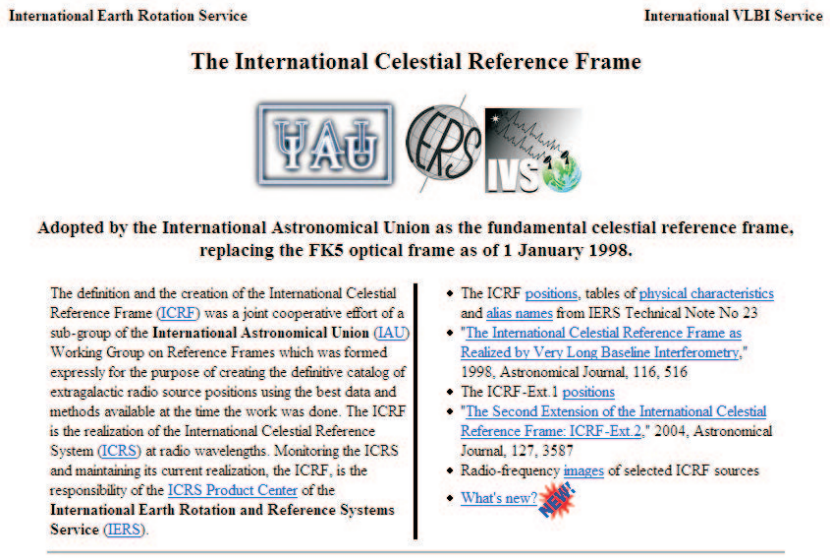

Fig. 2. USNO web page

ICRF (http://rorf.usno.navy.mil/ICRF) and
VLBI (http://rorf.usno.navy.mil/vlbi).

In the project ICRF page, access is given to the various services collaborating for the elaboration and maintenance of the ICRF: the International Astronomical Union (IAU), the IERS and IVS.

The ICRF page (Fig. 2) gives the following informations together with the necessary references:

- a short explanation about the adoption of the ICRF, together with links to the Paris Observatory site about ICRS, ICRF (extension) catalogues and related files.

- Radio frequency images of selected ICRF sources are available from the Radio Frame Frequency Images Database (RFFID).
- Abstract of the ICRF article, description of the settled organisation for the maintenance of the frame.
- Explanations about ICRF-Ext.1 catalogue and the ICRF-Ext.2 abstract article.

The VLBI page give links to the four following activities:

- USNO global VLBI solutions,
- RFFID,
- IVS Special Analysis Center for Source Structure that provides the IVS with intrinsic structure information on ICRF sources at radio wavelength,
- USNO Analysis of VLBA RDV that provides results of investigations of the effects of VLBA RDV data on astrometric position and EOP estimations.

The ICRS-PC/USNO component is the provider of the VLBI images of ICRF sources. The RRFID page (Fig. 3) explains the four different activities made on regular basis:

- VLBA and "VLBA + geodetic antenna" are snapshot images in S/X band (contour and visibility plots available in postscript format). Images and/or visibility in FITS format are distributed only upon request. The database contains actually 3285 images of 463 sources.
- The VLBA K/Q band program (collaboration between NASA, NRAO, Bordeaux Observatory and USNO), to extend ICRF to K, KA and Q bands, consist of 783 snapshot images of 231 sources.

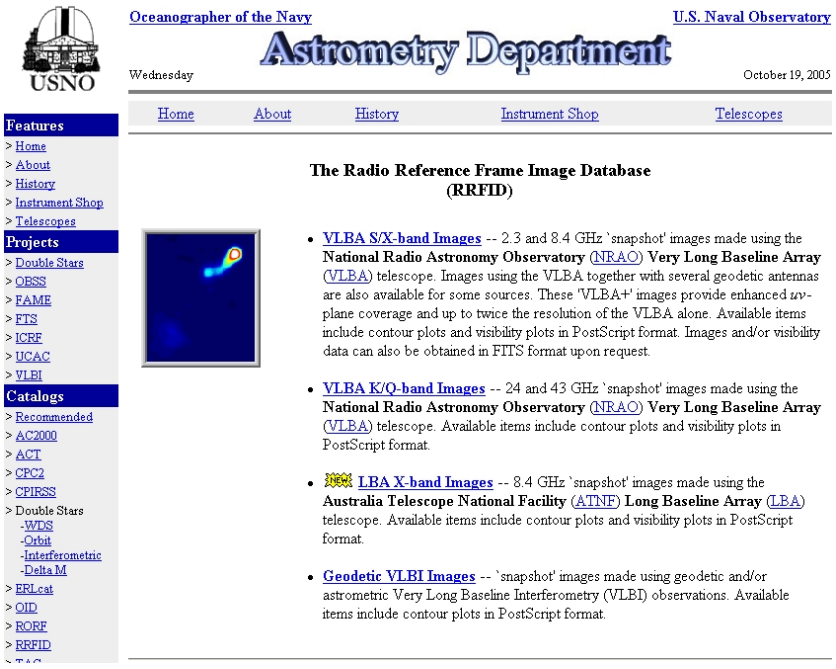

Fig. 3. Radio Frame Frequency Images Databases (RFFID) web page

- LBA X-band images is a joint program of Australian Telescope National Facility (ATNF) and USNO. The aim is to extend and maintain the ICRF in the southern hemisphere, the database contains 74 images of 69 sources.
- Geodetic VLBI images activity provide snapshot images using geodetic and/or astrometric VLBI observations.

The references and article links on source structure are available at the bottom of the page.

3 Plans

The site maintenance and extension plans include the following:

- update with newly available data and products,
- link to optical reference frames informations,
- development of the interactive consultation, in cooperation with the Centre de Données Astronomique de Strasbourg (CDS) and with the Virtual Observatory project in development at Paris Observatory.

References

- http://hpiers.obspm.fr/icrs-pc
- http://rorf.usno.navy.mil/ICRF
- http://rorf.usno.navy.mil/vlbi