

International Celestial Reference System

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The **International Celestial Reference System (ICRS)** is the current standard celestial reference system adopted by the International Astronomical Union (IAU). Its origin is at the barycenter of the Solar System, with axes that are intended to be "fixed" with respect to space. ICRS coordinates are approximately the same as equatorial coordinates: the mean pole at J2000.0 in the ICRS lies at 17.3 ± 0.2 mas in the direction 12 h and 5.1 ± 0.2 mas in the direction 18 h. The mean equinox of J2000.0 is shifted from the ICRS right ascension origin by 78 ± 10 mas (direct rotation around the polar axis).

The ICRS is based on hundreds of extra-galactic radio sources, mostly quasars, distributed around the entire sky. Because they are so distant, they are apparently stationary to our current technology, yet their positions can be measured with the utmost accuracy by Very Long Baseline Interferometry (VLBI). The positions of most are known to 0.001 arcsecond or better, which is orders of magnitude more precise than the best optical measurements.^[1]

See also

- International Celestial Reference Frame
- Barycentric celestial reference system
- International Terrestrial Reference System
- Astronomy
- Astrometry

References

- "ICRS Narrative" (http://aa.usno.navy.mil/faq/docs/ICRS_doc.php). U.S. Naval Observatory Astronomical Applications. Retrieved 2012-06-07.
- Kovalevsky, Jean; Mueller, Ivan Istvan; Kołaczek, Barbara (1989) *Reference Frames in Astronomy and Geophysics, Astrophysics and Space Science Library*, Volume 154 Kluwer Academic Publishers ISBN 9780792301820

External links

- Description (http://aa.usno.navy.mil/faq/docs/ICRS_doc.php) from US Naval Observatory
- Overview of ICRS and ICRF (<http://www.usno.navy.mil/USNO/astronomical-applications/data-services/icrs-links?searchterm=ICRS+ICRF>)
- IERS Conventions 2003 (<http://www.iers.org/MainDisp.csl?pid=46-25776>) (defines ICRS and other related standards)
- General information (<http://www.iers.org/IERS/EN/DataProducts/ICRS/icrs.html>) on the ICRS from IERS
- ICRS Product Center (<http://hpiers.obspm.fr/icrs-pc/>)

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