

THE IAU NUMBERING SYSTEM OF RADIO SOURCES

B. Elsmore
Mullard Radio Astronomy Observatory,
Cavendish Laboratory, Cambridge, England.

The convention for numbering radio sources adopted by the IAU uses the 1950 coordinates of right ascension in hours and minutes, followed by the declination truncated to tenths of a degree. It was designed for a growing population of sources so that new sources may be added and given an IAU number, unlike, for example, the listing in the BD catalogue which is a closed assembly.

Now that the current practice is to use the new system of astronomical constants and to adopt the equator and equinox of 2000 as standard, the question must be raised again as to whether the 1950 coordinates should continue to be used in an approved numbering system. Should we encourage authors of lists to use what might be called the J2000 system, which is the same as the IAU convention except it uses 2000 coordinates, and ultimately aim to get a resolution passed by the IAU to abandon the old 1950 system?

An argument against making this change is that the present IAU system has been in use for the past ten years or so and a renumbering will cause some difficulty but, I think, not confusion as the changes are small. It does not present a proliferation of numbering systems as it will replace the present IAU number rather than add to it.

For example, 3C84 0316+413 $03^{\text{h}} 19^{\text{m}} 48^{\text{s}}.160$ $41^{\circ} 30' 42.11''$
becomes 0319+415

The advantages are that the new system will be more tidy and self consistent as the numbering and positions will all be in 2000 coordinates. It will be unnecessary to compute the 1950 coordinates to number the sources and it is likely to remain useful for upwards of 50 years.

I would vote in favour of making the change now, because I believe that when we, and our successors, become more and more exclusively involved in J2000 coordinates, the present IAU system will be more and more tiresome.

Discussion:

WESTERHOUT: I suggest that we make no hasty decisions about new numbering systems. How long will we be with J2000? Are we going to change numbering systems every time we rotate our reference system? Of course not. Objects should therefore be numbered in an invariable system. For example, the Quasar reference frame - which is still expressed in RA and DEC but might one day, following Guinot, take on a life of its own as a "natural" reference. Galactic coordinates are another fixed system. How important is it that the name of the object tells you immediately where it is? This matter is far too important to be decided in a hurry by a small group, and requires some in-depth discussion, including philosophy.

EICHHORN: I agree with Westerhout. The equatorial system which is based exclusively on the kinematics of the Earth has physically nothing to do with the positions of the objects we list. We should therefore adopt a system based on galactic coordinates.

STRAND: How are the observers going to find these objects from galactic coordinates?

EICHHORN: Any programmable pocket calculator will make a practically instantaneous conversion.

THORNBURG: Should we perhaps follow the system of the minor planet people? We need a serial number in any case.

EICHHORN: Luyten first proposed a numbering system essentially based on position and deserves to be credited with the idea.

ELSMORE: Can we have a show of hands? Those for 1950 and those for 2000? Just to see? 1950 - 9; 2000 - overwhelming.