

ICRF3, the new realization of the International Celestial Reference Frame

P. Charlot, on behalf on the ICRF3 Working Group

This talk will give an overview of the new realization of the International Celestial Reference Frame, ICRF3, to be presented for adoption by the IAU General Assembly in August 2018. ICRF3 is aimed at replacing the second realization of the International Celestial Reference Frame, ICRF2, in use since 2010. ICRF3 has been generated by a Working Group of the IAU appointed in 2012. It is based on state-of-the-art astronomical and geophysical modeling and takes advantage of the wealth of VLBI data acquired on various observing networks (IVS, VLBA, DSN,...) since 2009 when ICRF2 was built. Compared to ICRF2, ICRF3 represents a significant improvement in terms of source characterization, position accuracy and total number of sources. About twice as many observations have entered ICRF3 compared to ICRF2. ICRF3 comprise source positions at three radio frequencies, 8.4 GHz, 22 GHz and 32 GHz. It is meant to be the reference for alignment of the Gaia optical frame onto the International Celestial Reference System with the highest accuracy.