

XXVIIth General Assembly

Rio de Janeiro, Brazil

2009

IAU 2009 RESOLUTION B1

on

IAU Strategic Plan: Astronomy for the Developing World

The XXVII General Assembly of the International Astronomical Union,

recognizing

1. the goal of the IAU to encourage the development of astronomy and facilitate better understanding of the universe,
2. that the current activities of the International Year of Astronomy 2009 have made great strides in advancing knowledge of astronomy among citizens of all nations and awareness of its value to society,
3. that science education and research is an essential component of modern technological and economic development,

therefore resolves that the IAU should

1. place increasing emphasis on programs that advance astronomy education in developing countries,
2. approve the goals specified in the Strategic Plan “Astronomy for the Developing World” as objectives for the IAU in the coming decade.
3. assess programs undertaken during the IYA to determine which activities are most effective in advancing astronomy.

IAU 2009 RESOLUTION A1
on
Implementing the IAU Strategic Plan.

The XXVII General Assembly of the International Astronomical Union,

recognizing

1. the goal of the IAU to encourage the development of astronomy and facilitate better understanding of the universe,
2. that the current activities of the International Year of Astronomy 2009 have made great strides in advancing knowledge of astronomy among citizens of all nations and awareness of its value to society,
3. that science education and research is an essential component of modern technological and economic development,
4. Resolution B1 adopting the IAU Strategic Plan Astronomy for the Developing World passed by the XXVII General Assembly,

therefore resolves that the IAU should

1. give high priority to supporting the development of astronomy infrastructure in emerging nations,
2. proceed with the implementation of the IAU Strategic Plan Astronomy for the Developing World through the creation of a Global Development Office and seek appropriate additional resources for implementing the plan.

IAU 2009 Resolution B2 on

IAU 2009 astronomical constants

1. The XXVII General Assembly of International Astronomical Union,

Considering

1. the need for a self-consistent set of accurate numerical standards for use in astronomy,
2. that improved values of astronomical constants have been derived from recent observations and published in refereed journals, and
3. that conventional values have been adopted by IAU GA 2000 and IAU GA 2006 resolutions for a number of astronomical quantities,

Recognizing

1. the continuing need for a set of Current Best Estimates (CBEs) of astronomical numerical constants, and
2. the need for an operational service to the astronomical community to maintain the CBEs

Recommends

1. that the list of previously published constants compiled in the report of the Working Group on Numerical Standards of Fundamental Astronomy (see <http://maia.usno.navy.mil/NSFA/CBE.html>) be adopted as the IAU (2009) System of Astronomical Constants.
2. that Current Best Estimates of Astronomical Constants be permanently maintained as an electronic document,
3. that, in order to ensure the integrity of the CBEs, IAU Division I develop a formal procedure to adopt new values and archive older versions of the CBEs, and
4. that the IAU establish within IAU Division I a permanent body to maintain the CBEs for fundamental astronomy.

IAU 2009 RESOLUTION B3

on

the Second Realization of the International Celestial Reference Frame

The International Astronomical Union XXVII General Assembly,

noting

1. that Resolution B2 of the XXIII General Assembly (1997) resolved “That, as from 1 January 1998, the IAU celestial reference system shall be the International Celestial Reference System (ICRS)”;
2. that Resolution B2 of the XXIII General Assembly (1997) resolved that the “fundamental reference frame shall be the International Celestial Reference Frame (ICRF) constructed by the IAU Working Group on Reference Frames”;
3. that Resolution B2 of the XXIII General Assembly (1997) resolved “That IERS should take appropriate measures, in conjunction with the IAU Working Group on reference frames, to maintain the ICRF and its ties to the reference frames at other wavelengths”;
4. that Resolution B7 of the XXIII General Assembly (1997) recommended “that high-precision astronomical observing programs be organized in such a way that astronomical reference systems can be maintained at the highest possible accuracy for both northern and southern hemispheres”;
5. that Resolution B1.1 of the XXIV General Assembly (2000) recognized “the importance of continuing operational observations made with Very Long Baseline Interferometry (VLBI) to maintain the ICRF”;

recognizing

1. that since the establishment of the ICRF, continued VLBI observations of ICRF sources have more than tripled the number of source observations,
2. that since the establishment of the ICRF, continued VLBI observations of extragalactic sources have significantly increased the number of sources whose positions are known with a high degree of accuracy,
3. that since the establishment of the ICRF, improved instrumentation, observation strategies, and application of state-of-the-art astrophysical and geophysical models have significantly improved both the data quality and analysis of the entire relevant astrometric and geodetic VLBI data set,
4. that a working group on the ICRF formed by the International Earth Rotation and Reference Systems Service (IERS) and the International VLBI Service for Geodesy and Astrometry (IVS), in conjunction with the IAU Division I Working Group on the Second Realization of the International Celestial Reference Frame has finalized a prospective second realization of the ICRF in a coordinate frame aligned to that of the ICRF to within the tolerance of the errors in the latter (see note 1),
5. that the prospective second realization of the ICRF as presented by the IAU Working Group on the Second Realization of the International Celestial Reference Frame represents a significant improvement in terms of source selection, coordinate accuracy, and total number of sources, and thus represents a significant improvement in the fundamental reference frame realization of the ICRS beyond the ICRF adopted by the XXIII General Assembly (1997),

resolves

1. that from 01 January 2010 the fundamental astrometric realization of the International Celestial Reference System (ICRS) shall be the Second Realization of the International Celestial Reference Frame (ICRF2) as constructed by the IERS/IVS working group on the ICRF in conjunction with the IAU Division I Working Group on the Second Realization of the International Celestial Reference Frame (see note 1),

2. that the organizations responsible for astrometric and geodetic VLBI observing programs (e.g. IERS, IVS) take appropriate measures to continue existing and develop improved VLBI observing and analysis programs to both maintain and improve ICRF2,

3. that the IERS, together with other relevant organizations continue efforts to improve and densify high accuracy reference frames defined at other wavelengths and continue to improve ties between these reference frames and ICRF2.

Note 1: The Second Realization of the International Celestial Reference Frame by Very Long Baseline Interferometry, Presented on behalf of the IERS / IVS Working Group, Alan Fey and David Gordon (eds.). (IERS Technical Note ; 35) Frankfurt am Main: Verlag des Bundesamts für Kartographie und Geodäsie, 2009. See <www.iers.org/MainDisp.csl?pid=46-25772> or <hpiers.obspm.fr/icrs-pc/> .

IAU 2009 RESOLUTION B4
On Supporting Women in Astronomy

The International Astronomical Union XXVII General Assembly,

recalling

1. the UN Millennium Development Goal 3: promote gender equality and empower women,
2. the IAU/UNESCO International Year of Astronomy 2009 goal 7: improve the gender-balanced representation of scientists at all levels and promote greater involvement by underrepresented minorities in scientific and engineering careers,

recognizing

1. that individual excellence in science and astronomy is independent of gender,
2. that gender equality is a fundamental principle of human rights.

considering

1. the role of the IAU Working Group for Women in Astronomy,
2. the role of the IYA2009 Cornerstone Project She is an Astronomer,

Resolves

1. that IAU members should encourage and support the female astronomers in their communities,
2. that IAU members and National Representatives should encourage national organisations to break down barriers and ensure that men and women are given equal opportunities to pursue a successful career in astronomy at all levels and career steps.

IAU 2009 RESOLUTION B5

in Defence of the night sky and the right to starlight

The International Astronomical Union XXVII General Assembly,

Recalling

1. the IAU/UNESCO International Year of Astronomy 2009 goal 8: facilitate the preservation and protection of the world's cultural and natural heritage of dark skies in places such as urban oases, national parks and astronomical sites,
2. the Declaration approved during the International Conference in Defence of the Quality of the Night Sky and the Right to Observe Stars (La Palma, Canary Islands, 2007),

Recognising that

1. the night sky has been and continues to be an inspiration of humankind, and that its contemplation represents an essential element in the development of scientific thought in all civilisations,
2. the dissemination of astronomy and associated scientific and cultural values should be considered as basic content to be included in educational activities,
3. the view of the night sky over most of the populated areas of the Earth is already compromised by light pollution, and is under further threat in this respect,
4. the intelligent use of unobtrusive artificial lighting that minimises sky glow involves a more efficient use of energy, thus meeting the wider commitments made on climate change, and for the protection of the environment,
5. tourism, among other players, can become a major instrument for a new alliance in defence of the quality of the nocturnal skyscape.

considering

1. the role of the IAU Division XII Commission 50 and its WG Controlling Light Pollution,
2. the role of the IYA2009 Cornerstone Project Dark Skies Awareness,

resolves that

1. An unpolluted night sky that allows the enjoyment and contemplation of the firmament should be considered a fundamental socio-cultural and environmental right, and that the progressive degradation of the night sky should be regarded as a fundamental loss.
2. Control of obtrusive and sky glow-enhancing lighting should be a basic element of nature conservation policies since it has adverse impacts on humans and wildlife, habitats, ecosystems, and landscapes.
3. Responsible tourism, in its many forms, should be encouraged to take on board the night sky as a resource to protect and value in all destinations.
4. IAU members be encouraged to take all necessary measures to involve the parties related to skyscape protection in raising public awareness – be it at local, regional, national, or international level – about the contents and objectives of the International Conference in Defence of the Quality of the Night Sky and the Right to Observe Stars [<http://www.starlight2007.net/>], in particular the educational, scientific, cultural, health and recreational importance of preserving access to an unpolluted night sky for all humankind.

further resolves that

1. Protection of the astronomical quality of areas suitable for scientific observation of the Universe should be taken into account when developing and evaluating national and international scientific and environmental policies, with due regard to local cultural and natural values.