Contents

IERS Technical Note No. 29

Preface v

Position Papers

Background Reasons for the IAU 2000 Resolutions Requiring Actions from the IERS
J. Vondrak 1

Practical Consequences of Resolutions B1.3, B1.4, B1.5 and B1.9 Concerning “Relativity in Astrometry, Celestial Mechanics and Metrology”
M. Soffel 5

D. D. McCarthy and N. Capitaine 9

Comparison of “Old” and “New” Concepts: Coordinate Times and Time Transformations
G. Petit 19

Comparison of “Old” and “New” Concepts: Reference Systems
J. Kovalevsky 31

Comparison of “Old” and “New” Concepts: The Celestial Intermediate Pole and Earth Orientation Parameters
N. Capitaine 35

Comparison of “Old” and “New” Concepts: Celestial Ephemeris Origin (CEO), Terrestrial Ephemeris Origin (TEO), Earth Rotation Angle (ERA)
B. Guinot 45

Comparison of “Old” and “New” Concepts: Astrometry
P. K. Seidelmann 51

Implementing the IAU 2000 Resolutions in Almanacs
J. A. Bangert 53

Future JPL Ephemerides
E. M. Standish 61

Software for Implementing the IAU 2000 Resolutions
P. Wallace 65

An Implementation of IAU 2000 Resolutions in VLBI Analysis Software
A. M. Gontier 71

Future IERS Products: Implementation of the IAU 2000 Resolutions
M. Rothacher 77

Compatibility with Past Observations
D. D. McCarthy and N. Capitaine 85
Extended Poster Abstracts

Expressions for the Coordinates of the CIP and the CEO using IAU 2000 Precession-Nutation
N. Capitaine, J. Chapront, S. Lambert and P. Wallace 89

2005 French Ephemerides: Implementation of new Constants and Theories

New Precession Formula
T. Fukushima 97

Celestial Ephemeris Origin (CEO), Terrestrial Ephemeris Origin (TEO)
B. Guinot 99

A Simple Method for Conversion Between the Celestial Ephemeris Origin, the ICRF, and the Equinox of Date
J. L. Hilton 101

Positioning the Terrestrial Ephemeris Origin in the ITRF
S. Lambert and C. Bizouard 103

A Comparison of the VLBI Nutation Series With Model
Z. Malkin 107

The JCET/GSFC Satellite Laser Ranging TRF and EOP Series
E. C. Pavlis 109

The Tables of Differences Between the Nutation Series IAU2000, IERS1996 and IAU1980
C. Ron 111

J. Souchay 115

Annexes

Annex 1: IAU Resolutions Adopted at the 24th IAU General Assembly 117
Annex 2: Programme of the Workshop 129
Annex 3: List of Participants 133