Division I Working Group on "Precession and the Ecliptic"

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Abstract. The WG has conferred via email on the topics of providing a precession theory dynamically consistent with the IAU 2000A nutation theory and updating the expressions defining the ecliptic. The consensus of the WG is to recommend:

(*a*) The terms lunisolar precession and planetary precession be replaced by precession of the equator and precession of the ecliptic, respectively.

(*b*) The IAU adopt the P03 precession theory, of Capitaine *et al.* (2003a, A& A 412, 567–586) for the precession of the equator (Eqs. 37) and the precession of the ecliptic (Eqs. 38); the same paper provides the polynomial developments for the P03 primary angles and a number of derived quantities for use in both the equinox based and celestial intermediate origin based paradigms.

(*c*) The choice of precession parameters be left to the user.

(*d*) The recommended polynomial coefficients for a number of precession angles are given in Table 1 of the WG report, including the P03 expressions set out in Tables 3–5 of Capitaine *et al.* (2005, A& A 432, 355–367), and those of the alternative Fukushima (2003, AJ 126, 494–534) parameterization; the corresponding matrix representations are given in equations 1, 6, 11, and 22 of the WG report.

(*e*) The ecliptic pole should be explicitly defined by the mean orbital angular momentum vector of the Earth-Moon barycenter in an inertial reference frame, and this definition should be explicitly stated to avoid confusion with older definitions. The formal WG report will be submitted, shortly to Celest. Mech. for publication and their recommendations will be submitted at the next General Assembly for adoption by the IAU.