A note on frame transformations with applications to geodetic datums

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The right expression for Eq. (10) is as follows:

$$
\begin{aligned}
\{v_x\}_{ITRFyy} = {} & \{\dot{T}_x\} + [\![(1+s(t_k))\,\underline{[\dot{\varepsilon}]}^t + \dot{s}\,[\delta\Re]]\!]\,\{x(t)\}_{ITRF00} + [\![(1+s(t_k))\,[\delta\Re] + (2t_D - (t_k+t)) \\
& \times [(1+s(t_k))\,\underline{[\dot{\varepsilon}]}^t + \dot{s}\,[\delta\Re]]]\!]\,\{v_x\}_{ITRF00} + \dot{s}\,\underline{[\dot{\varepsilon}]}^t \{2(t_D - t_k)\,\{x(t)\}_{ITRF00} \\
& + (3t_D^2 + t_k^2 - 4t_D t_k + 2t(t_k - t_D))\,\{v_x\}_{ITRF00}\}
\end{aligned}
\qquad (10)
$$

The previously published Table 2 was not properly aligned and contained some errors. Replace Table 2 by the following table:

Table 2
Transformation parameters and their rates from ITRF00 to other frames

ITRF00 →		NAD83 t_k=1997.0	ITRF89 t_k=1988.0	ITRF92 t_k=1988.0	ITRF94 t_k=1997.0
T_x	cm	99.56	2.97	1.47	0.67
T_y	cm	−190.13	4.75	1.35	0.61
T_z	cm	−52.15	−7.39	−1.39	−1.85
ε_x	mas	25.915	0.00	0.00	0.00
ε_y	mas	9.426	0.00	0.00	0.00
ε_z	mas	11.599	0.18	0.18	0.00
s	ppb	0.62	5.85	0.75	1.55
$\dot{T}_x$	cm/y	0.07	0.00	0.00	0.00
$\dot{T}_y$	cm/y	−0.07	−0.06	−0.06	−0.06
$\dot{T}_z$	cm/y	0.05	−0.14	−0.14	−0.14
$\dot{\varepsilon}_x$	mas/y	0.013	0.00	0.00	0.00
$\dot{\varepsilon}_y$	mas/y	−0.015	0.00	0.00	0.00
$\dot{\varepsilon}_z$	mas/y	−0.020	−0.02	−0.02	−0.02
$\dot{s}$	ppb/y	−0.18	0.01	0.01	0.01

Note: All rotations are given counter-clockwise positive; mas = milliarc second; ppb = parts per billion = 10^{-6} ppm

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The following two equations should be replaced in Appendix B.

$$\begin{aligned}\partial\mathscr{A}/\partial\{\varepsilon(t_k)\} &= \partial[\partial\varepsilon]/\partial t_D \\ &= (1+s(t_k))\,\underline{[v_x]} \\ &\quad + \dot{s}\,[\![\underline{[x]} + (2t_D-(t_k+t))\,\underline{[v_x]}]\!] \\ &= [\bar{\partial}\varepsilon]\end{aligned}$$

$$\begin{aligned}\partial\mathscr{A}/\partial\{\dot{\varepsilon}\} &= \partial[\partial\dot{\varepsilon}]/\partial t_D \\ &= (1+s(t_k))\,[\![\underline{[x]} + (2t_D-(t_k-t))\,\underline{[v_x]}]\!] \\ &\quad + \dot{s}\,[\![2(t_D-t_k)\,\underline{[x]} + (3t_D^2+t_k^2-4t_Dt_k \\ &\quad + 2t(t_k-t_D))\,\underline{[v_x]}]\!] = [\bar{\partial}\dot{\varepsilon}]\end{aligned}$$