

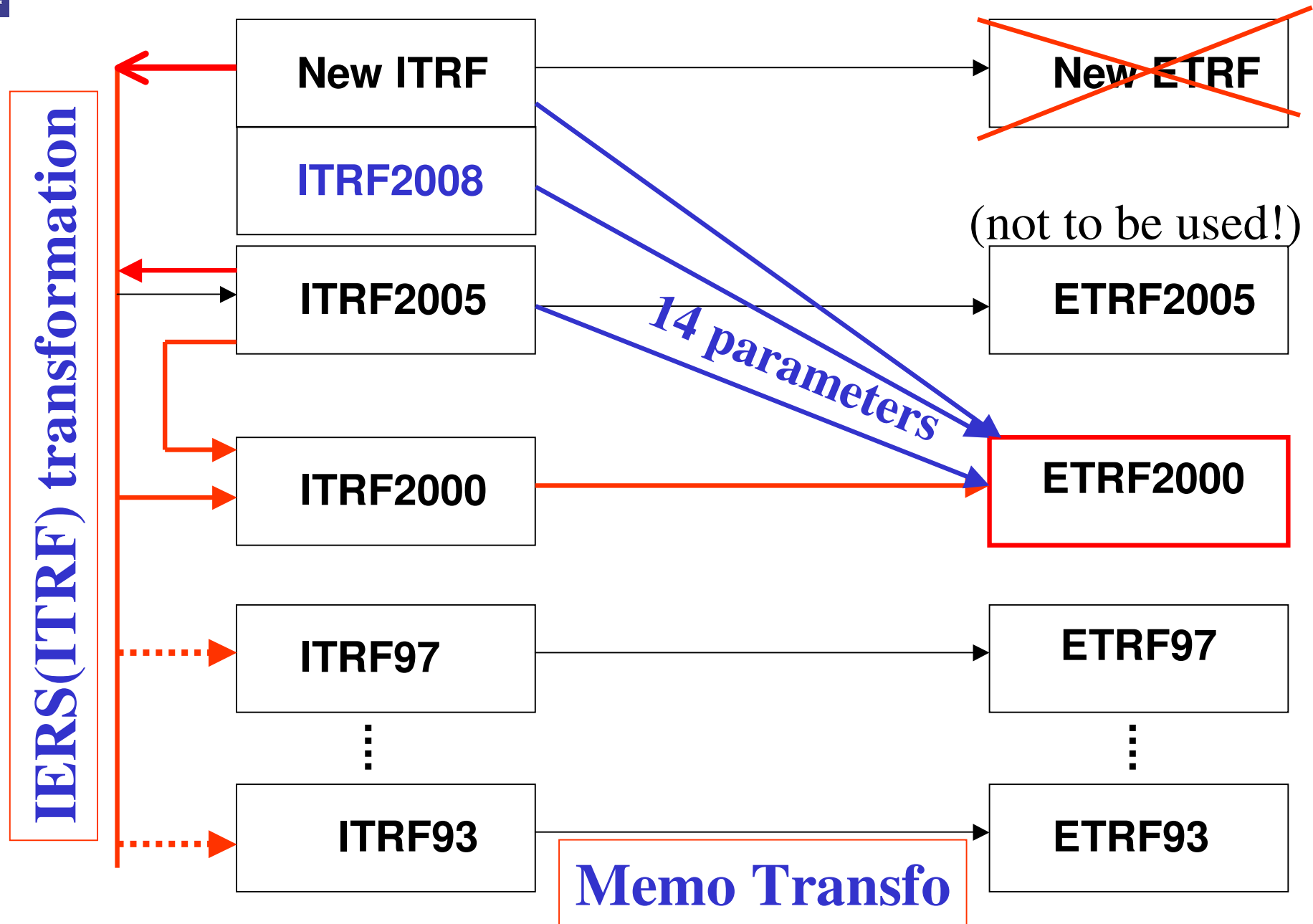
Transformation ITRF2008 to ETRF2000

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TWG Recommendation

- Adopte ETRF2000 as a conventional frame of the ETRS89 system
- Provide transformation parameters (14) from ITRF2005 (and new ITRF_{yy}) to ETRF2000
- Goal:
 - harmonize the ETRS89 realization overall Europe
 - avoid coordinates jumps due to reference frame change

ITRF_{yy} to ETRF_{yy}



14-parameter transformation

From ITRF2005 To ETRF2000

	T1 mm	T2 mm	T3 mm	D 10 ⁻⁹	R1 mas	R2 mas	R3 mas	Epoch y
	54.1	50.2	-53.8	0.40	0.891	5.390	-8.712	00:001
Rates	-0.2	0.1	-1.8	0.08	0.081	0.490	-0.792	

From ITRF2008 To ITRF2005

	T1 mm	T2 mm	T3 mm	D 10 ⁻⁹	R1 mas	R2 mas	R3 mas	Epoch y
	-2.0	-0.9	-4.7	0.94	0.000	0.000	0.000	00:001
Rates	0.3	0.0	0.0	0.00	0.000	0.000	0.000	

From ITRF2008 To ETRF2000

	T1 mm	T2 mm	T3 mm	D 10 ⁻⁹	R1 mas	R2 mas	R3 mas	Epoch y
	52.1	49.3	-58.5	1.34	0.891	5.390	-8.712	00:001
Rates	0.1	0.1	-1.8	0.08	0.081	0.490	-0.792	

General Procedure

- Summation of:
 - $\text{ITRF}_{yy} - T_o - \text{ITRF}_{2000}$
 - +
 - $\text{ITRF}_{2000} - T_o - \text{ETRF}_{2000}$
- $= \text{ITRF}_{yy} \implies \text{ETRF}_{2000}$

Transformation ITRF_{yy}-to-ETRF2000

Memo #7

Table 5: Transformation parameters from ITRF2005 to ETRF2000 at epoch 2000.0 and their rates/year

	T1 mm	T2 mm	T3 mm	D 10 ⁻⁹	R1 mas	R2 mas	R3 mas
Rates	54.1 -0.2	50.2 0.1	-53.8 -1.8	0.40 0.08	0.891 0.081	5.390 0.490	-8.712 -0.792

Table 5: Transformation parameters from ITRF_{yy} to ETRF2000 at epoch 2000.0 and their rates/year

ITRF Solution	T1 mm	T2 mm	T3 mm	D 10 ⁻⁹	R1 mas	R2 mas	R3 mas
ITRF2008	52.1	49.3	-58.5	1.34	0.891	5.390	-8.712
Rates	0.1	0.1	-1.8	0.08	0.081	0.490	-0.792
ITRF2005	54.1	50.2	-53.8	0.40	0.891	5.390	-8.712
Rates	-0.2	0.1	-1.8	0.08	0.081	0.490	-0.792
ITRF97	47.3	46.7	-25.3	-1.58	0.891	5.390	-8.772
Rates	0.0	0.6	1.4	-0.01	0.081	0.490	-0.812
ITRF96	47.3	46.7	-25.3	-1.58	0.891	5.390	-8.772
Rates	0.0	0.6	1.4	-0.01	0.081	0.490	-0.812
ITRF94	47.3	46.7	-25.3	-1.58	0.891	5.390	-8.772
Rates	0.0	0.6	1.4	-0.01	0.081	0.490	-0.812
ITRF93	76.1	46.9	-19.9	-2.07	2.601	6.870	-8.412
Rates	2.9	0.2	0.6	-0.01	0.191	0.680	-0.862

The way to go...

- Update the famous memo by the 14 parameters from **ITRF2008** to **ETRF2000**
- Submit the updated memo to TWG members for comments, etc.
- An evaluation campaign by TWG members to test the transformation parameters
- Adoption/publication of the updated memo
- Wait until the IGS adopts ITRF2008/IGS08!