

Future ITRF Solutions, Interaction with the CPP and Future IERS products?

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The ITRF: some facts

- **Is not a routine Product of IERS**
- **Is a long-term Standard Frame for:**
 - **Earth Science Applications**
 - **Practical geodetic Applications & National Datums**
 - **A Reference (to be) used by Technique/Analysis Centers for Datum Definition of their products**
- **Should be Accurate, Stable, Reliable, etc.**
- **Relies and depends on :**
 - **TC products**
 - **Local Ties in Co-location Sites**
- **Should not replace, but be compatible with individual TC Frames (e.g. follow IGS scheme)**

How frequent should be the ITRF solutions ?

- **Based on ITRF PC Experience**
 - Users don't like ITRF to change too often or large datum changes with updates
 - But users demand quality
 - TCs and others need some time to switch to a new ITRF (e.g. IGS, POD, long-term altimetry analyses)
- **New ITRF solution expected in case of significant improvement in:**
 - Local Ties and number/distribution of co-locations
 - Individual TC/AC solutions
 - Combination methodology/parameters
- **$1 \text{ year} < \text{ITRF life-time} \leq 4 \text{ years}$**

ITRF – CPP – New IERS Products ? (1/2)

- **ITRF could not be replaced by, e.g. weekly solutions**
- **ITRF is needed for & useful in the CPP (& other areas) for:**
 - **Datum definition**
 - **Specialized studies**
 - **Validation**
- **Should be consistent with EOPs & ICRF**
- **EOPs are included in the ITRF2004, but**
 - **EOPs maintenance and continuity are needed and should be consistent with ITRF2004 over time**
 - **Procedure within the CPP should be developed**
 - **E.g. Strategies by Altamimi & Ray, Nice 2004**
- **ITRF PC plans to combine globally ITRF, EOPs and ICRF for the next run, and studies to start within the CPP at weekly basis ==> This needs contribution of ICRF and EOP PCs**

ITRF – CPP – New IERS Products ? (2/2)

- **New (?) IERS products need to be defined & validated:**
 - **Global products (ITRF, EOPs, ICRF) are well identified, but consistency has to be improved**
 - **Should IERS generate weekly station positions or should IERS leave this to TCs (e.g. IGS) ?**
 - **Individual TC frames are (should be) internally more consistent than ITRF, but compatible with the ITRF datum definition**
 - **Adding local ties at weekly basis may distort unevenly the frame parameters & EOPs, see Altamimi Napa presentation, 2004**

Summary (1/2)

- **IERS is and should remain the provider of the Global Standards (ITRF, EOP & ICRF)**
- **ITRF, EOP & ICRF should be preserved and their consistency enforced**
- **$1 \text{ year} < \text{ITRF life-time} \leq 4 \text{ years}$**
 - **ITRF2004 to be frozen for public use**
 - **Weekly updates to monitor EOPs and frame**
- **To ensure consistency, the IERS PCs should work together in a cooperative way**
 - **ITRF PC and EOP PC are ready to work immediately after the ITRF2004**
 - **ICRF PC contribution/involvement is essential**

Summary (2/2)

- **Enforce and encourage the role of the CRCs within the CPP to develop, test & validate:**
 - **Strategies & parametrizations**
 - **New products**
- **TCs are encouraged/assisted to elaborate their own ITRF-compliant realizations (e.g. IGS)**
- **New Products should be clearly identified:**
 - **Consider user needs and rationality**
 - **Compatible with IERS global references**
 - **Harmonized & compatible with TCs products**
 - **Leave room for TCs to promote their own products**