ETRS89 Realizations

- **Basic Principles**

- **ETRFyy solutions**

- **Current Practices**

- **Recommendations**

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ETRS89: Basic Priciples

- **Avoid complication to the users**
- **The ETRS89 as a system should remain unchanged**
- **Keep the existing geodetic/mathematical transformation formulae between ITRS and ETRS89. An essential link between the two systems**
- **Admit/accept the existence of different realizations of both systems**
- **Keep one way to realize the ETRS89, using the pre-existing transformation formulae**
- **Inevitably the ETRFyy inherit some of ITRFyy features**
- **Different users adopted different frames (ETRFyy)**

Users of ETRS89 Realizations

- ## Type_1 : all national datum users:
  - Different ETRFyy frames were already adopted by different countries, with legal status!
  - Frame changes are undesirable and complicated
- ## Type_2: EPN users: weekly time solutions
  - (1): users who wants to have access ETRS89 via the whole EPN network
  - (2): users of country-EPN stations, but need weekly solutions expressed in their national ETRFyy

Current situation

- **Differnt users with different frames (ETRFyy)**

- **Impossible to eliminate now shifts between already existing and USED frames**

- **Shifts/changes are not limited to ETRF2000 and ETRF2005, but concern almost all ETRFyy**

- **Impossible to impose/recommend the usage of one frame (not a system) for the entire Europe**

- **We have to leave the freedom to users to select their « preferred » frame**

Recommendations

- **Transformation formulae should remain flexible (not to be changed)**

- **Recommendation:**
  - Use the most recent ITRF (IGS) frame for GPS data reduction
  - Transform to ITRFyy corresponding to the user ETRFyy
  - Do the transformation ITRF-to-ETRF

- **Advantages:**
  - No extra formula is added to the « famous » memo
  - Satisfy « all » type of users

Conclusion

- **Adopt the memo 7 (version August 2007) with additional paragraph « Special Cases »**

- **Keep ETRF2000 for the EPN time series plots at the EPNCB web site**

- **Possibly add tool allowing to express current EPN weekly solutions in any ETRFyy frame (?)**