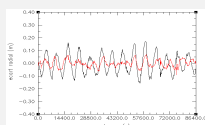
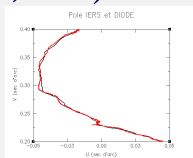
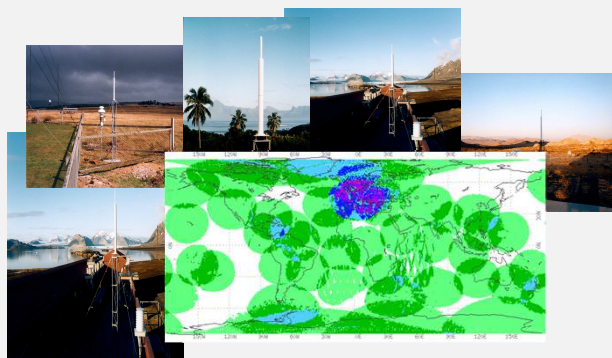


Many improvements in DGXX-S DORIS receivers (Jason-3, Sentinel-3, ...):

- Better on-board computer (LEON V8),
- New USOs for Sentinel-6/Jason-CS,
- Better detection of invalid measurement
- New version of DIODE software : ocean tides, frequency, prediction, pole prediction : 2.4cm RAD RMS



... a dense and active DORIS beacon network ...



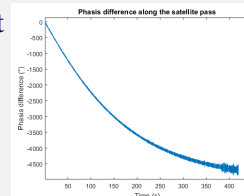
- 4th generation beacons validated and coming into activities,
- ITRF 2014 coordinates

... with new Orbit Determination standards

- POE-F standards have significantly improved the accuracy of DORIS-only orbits,
- 0,8cm RMS SLR residuals at high elevation,
- 1.2cm RMS SLR residuals at all elevations,
- See John Moyard et al communication "CNES POD Team Activities And Next Challenges"

... and soon (R&T CNES) new DORIS-GNSS Twin receivers

- Feasibility study was successful in 2018,
- Ground demonstration (2019) just begins at the DORIS Laboratory,
- Smaller, lighter, less consuming



... daily monitored by the DORIS INTEGRITY TEAM :

- Each contributor satellite DORIS data file is checked as soon as possible in order to, immediately, detect and analyze the very first signs of abnormal behavior of certain parts of the system :

- Station electric gap
- Loss of synchronization (time reference failure)
- First signs of ageing beacons (power), ...

=> instantaneous correction : SYSTEM INTEGRITY

- Effects of RF perturbations on signals
- Effects of radiation and space weather storms

