

ESA ERS Radar Altimeter products

Application of external bias and sensor characterization data to the altimetric range

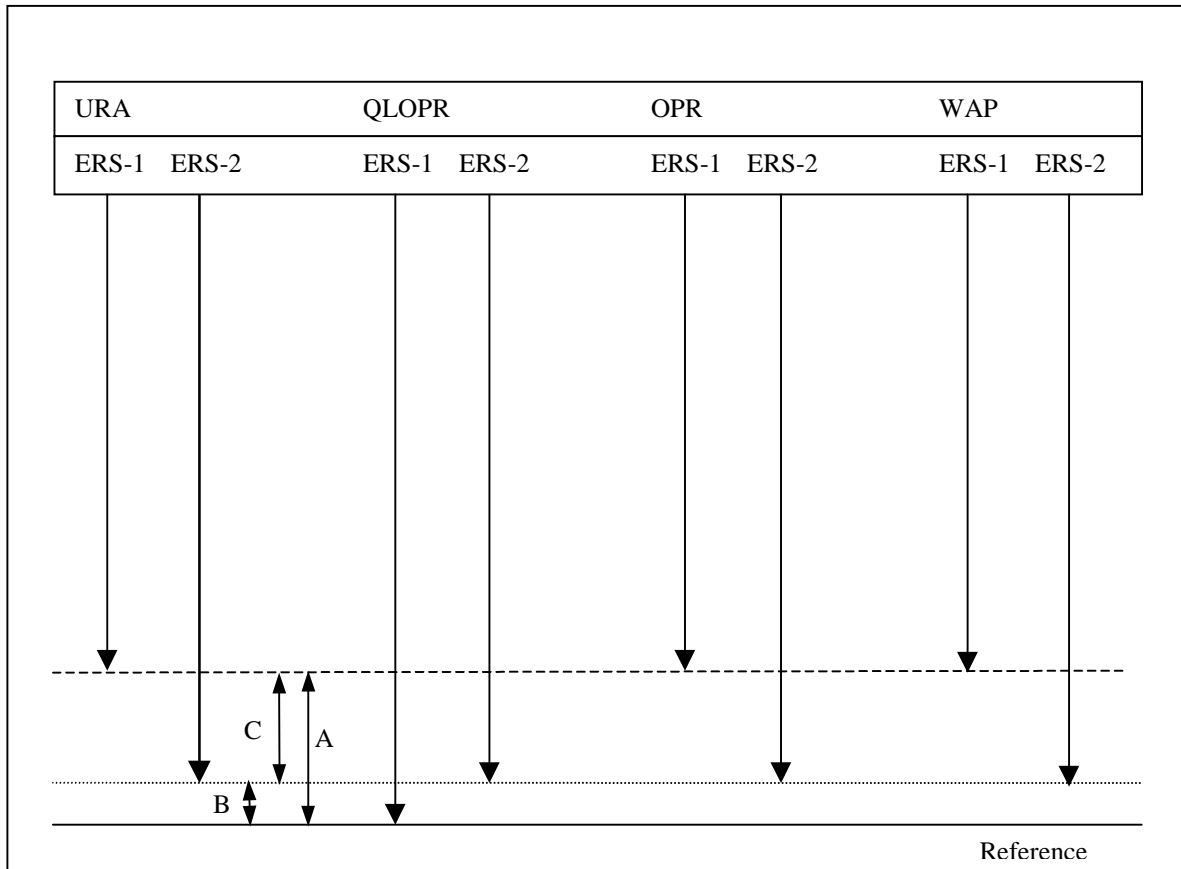


Figure: Representation of the different ERS Altimetric Ranges as read from the ESA Radar Altimeter products.

A represents the Venice Bias. $A = -41.5 \pm 5.2$ cm. (See Ref I)

B represents a delta bias, being not significantly different from zero (result from the ERS-2 RA & MWR Commissioning Phase).

C represents the system bias (40.9 cm) (See Ref II)

In all the ESA Ground Stations and PAFs (Processing and Archiving Facilities), the RA processing is performed with:

- $\text{eps_tau_g} = 29.80 \pm 0.10$ ns (Ref., ER-MN-SES-RA-0444, Annex 2) for ERS-1
- $\text{eps_tau_g} = 27.70 \pm 0.27$ ns (Ref., ER-TN-DSF-RA-1504, issue 1., 20-Sept-1994) for ERS-2.
The difference is equivalent to 40.9 cm in range. (ERS-2 range being longer)
- No external bias applied operationally to the data except for the ERS-1 QLOPR. The Venice bias is there applied.

References:

- I- The Calibration of ERS-1 Radar Altimeter, ER-RP-ESA-RA-0257
- II- Pierre Féménias, Technical Note ER-TN-RS-RA-0022, Issue 1.0, 20/05/96, ERS QLOPR and OPR Range processing,