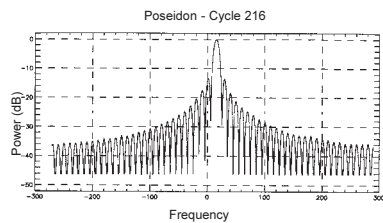


# POSEIDON-I calibrations modes and instrumental performances

Two modes of calibrations are performed. The first one, CAL1, measures the point target response (PTR) of the altimeter corrected for the effects of the low-pass filter (LPF) measured by the CAL2 calibration mode. The aim of the CAL1 sequence processing is to correct the PTR for the effects of the LPF and to compute the characteristics of the PTR. The aim of the CAL2 sequence processing is to normalize the LPF spectrum and to compute its characteristics (the mean LPF spectrum is computed on board).

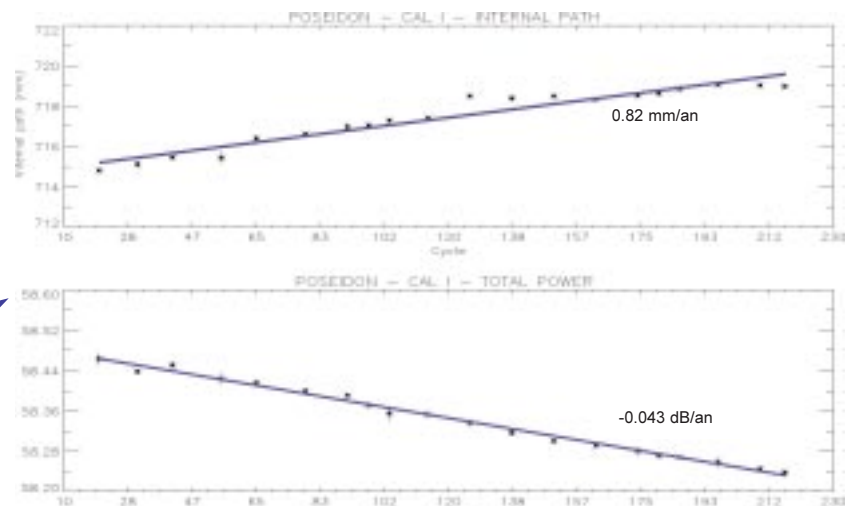
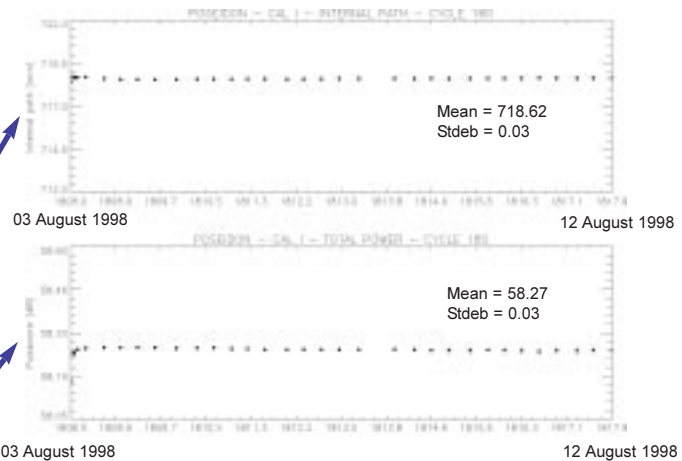
## CAL1



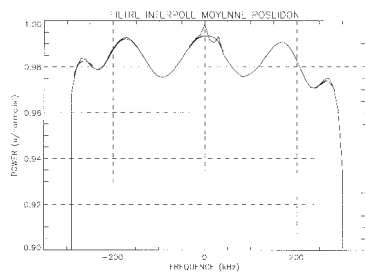
For the CAL1 calibration sequence, the main parameters computed are:

- The difference of internal travel between the transmission and reference lines of the altimeter. This parameter is used to correct the distance measured between the satellite and the ocean surface.
- The total power of the PTR which is used to compute the backscatter coefficient.
- The width of the main lobe of the PTR and the maximum level of the secondary lobes of the PTR in order to detect the degradation of the measurements.

Among others, the total power and the difference of internal travel are monitored continuously since the beginning of the mission, showing a remarkable stability.



## CAL2



For the CAL2 calibration sequence, the following parameters are computed after detection and subtraction of the leakage spikes:

- The slopes of the right and left sides of the LPF spectrum.
- The amplitude of the undulations for both sides of the LPF spectrum.
- The mean power of the LPF spectrum.
- Then the LPF spectrum is normalized and interpolated for use in the CAL 1 processing to correct the waveforms.

Among others, the mean power of the LPF spectrum is monitored continuously since the beginning of the mission showing a remarkable stability.

