1) Why ?

To make the measured waveforms coincide with a return power model (accounting in particular for mispointing and skewness, and limiting the range of Variance of the main parameters), the return power model is computed from the main parameters:

- Effective Altimeter Range
- Thermal Noise
- Effective Amplitude
- Skewness coefficient
- Origin of the mispointing estimation Platform

The return power model is then compared to the measured waveform, and the main parameters are updated accordingly. The parameters are updated using an optimization procedure, typically a least squares method.

Mathematical Description:

- Effective Altimeter Range
- Thermal Noise
- Effective Amplitude
- Skewness coefficient
- Origin of the mispointing estimation Platform

Main steps of the processing:

1. Computation of the echo model and partial derivatives
2. Determination of matrices BT and D
3. Resolution of system BT.X = D
4. Update of Epoch, SigmaC and Amplitude
5. Conditions on MQE (n+1, n, n-1) OK ?
6. MQE(n) < 1 + Threshold and 1 - Threshold < MQE(n-1)
7. Loop (n=0 to max. allowed value)

2) How ?

To make the measured waveforms coincide with a return power model (accounting in particular for mispointing and skewness, and limiting the range of Variance of the main parameters), the return power model is computed from the main parameters:

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7. Loop (n=0 to max. allowed value)

3) Current Setting of the main Parameters

- Mean Quadratic Error between the normalized waveform and the normalized echo model
- Resolution of system BT.X = D
- Computation of the echo model and partial derivatives
- Determination of matrices BT and D
- Update of Epoch, SigmaC and Amplitude
- Conditions on MQE (n+1, n, n-1) OK ?
- MQE(n) < 1 + Threshold and 1 - Threshold < MQE(n-1)
- Loop (n=0 to max. allowed value)